

**VA UTILIZATION AND
PATIENT INSURANCE COVERAGE**



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HIGHLIGHTS

Since 1997, researchers at the Center for Health Quality, Outcomes and Economic Research (CHQOER) have estimated VA's potential collections from third-party payers for care provided to veterans at VA medical centers. One long-standing concern with the model is that it assumed, for lack of better data, that the proportion of care delivered to patients with third-party health insurance equals the proportion of insured patients. This assumption led to overestimates of the amount VA can expect to collect from the insurance companies it bills. Despite recognition of the problem, VA could not correct it or even quantify the amount of the overestimate because it lacked detailed, reliable data on the health insurance coverage of veterans receiving care from VA. Now, there are new data available from a unique survey of VA enrollees, the Large Health Survey of VA Enrollees, conducted in 1999 by the Office of Quality and Performance in collaboration with the VHA Health Assessment Project. Using those data, CHQOER will quantify the overestimate. As the first step in that quantification, CHQOER has profiled veterans' insurance coverage and utilization by analyzing survey data and linking it to VHA utilization databases. This report presents the results of those analyses. CHQOER quantification of overestimates will be presented in a separate report. Among the key findings here:

1. The Large Health Survey provides valid information on VA patients' health insurance.

- The self-reports of Medicare coverage show high agreement with the coverage estimated from merged VA/Medicare data.
- The match between the survey data and MCCF billing data on insurance coverage for FY 1999 is approximately 90%.

2. Controlling for Medicare status, VA patients with private insurance coverage tend to have higher incomes, lower disability status and better health status than other veterans.

- 52.5% of VA enrollees are also enrolled in Medicare (dually-enrolled) as of the summer of 1999.
- 47% of VA enrollees have third-party private health care insurance.
 - 53% of dually-enrolled patients have private Medigap policies.
 - 40% of VA enrollees who are not in Medicare report private health care insurance.
- Privately insured patients have better health status than patients without coverage.
- The majority (~ 75%) of the dually-enrolled patients are over age 65.
 - Dually-enrolled patients under age 65 are less likely to have third-party private health care insurance than the older Medicare enrollees who use VA.

- Overall, enrollees who are catastrophically disabled, with low-income priority, or with service-connected disability of 50% or more are much less likely to have private insurance, whether or not they are enrolled in Medicare.
- Enrollees with higher income or lower disability status tend to have Medigap or other private insurance (depending on whether they are Medicare enrollees).

3. Insurance coverage for veterans varies across VISNs.

- Medicare coverage varies across VISNs by a factor of 1.5: from 46.2% of enrollees in VISN 20 to 62.1% in VISN 3.
- The percentage of enrollees with private insurance also varies by a factor of 1.5: from 37.6% in VISN 22 (20.4% with Medigap and 17.2% with other private insurance) to 57.6% in VISN 4 (37.7% with Medigap and 19.9% with other private insurance).

4. The amount of VA care incurred by veterans (valued using MCCF's reasonable charges) varies by insurance status.

- VA enrollees with any private insurance (Medigap or otherwise) use less VA care on average than patients without any private insurance. Enrollees with any private insurance are admitted to VA hospitals less frequently and have fewer outpatient visits and procedures.
- When the utilization is valued using MCCF's reasonable charges:
 - For VA inpatients, Medicare enrollees with Medigap coverage incur average annual reasonable charges roughly equal to Medicare enrollees without private insurance (\$26,999 compared to \$26,604), but the number of discharges per year is slightly less (1.57 compared to 1.74).
 - For VA outpatients, Medicare enrollees with Medigap coverage incur annual reasonable charges per patient equal to about half those of Medicare enrollees without private insurance (\$2,248 compared to \$4,083).
 - VA patients with private insurance only (i.e., not enrolled in Medicare) incur annual reasonable charges per patient equal to about half those of enrollees without private insurance in both inpatient (\$13,541 compared to \$22,502) and outpatient (\$1,868 compared to \$3,672) settings.

This evidence confirms that the CHQOER/MCCF model of VA's potential collections from third party insurers has tended to overestimate potential billable amounts and that the extent of overstatement varies among the VISNs. The overstatement is considerable larger for non-Medicare enrollees with private health insurance than for Medicare enrollees with Medigap coverage. CHQOER researchers are comparing several approaches to estimating the impact of the new survey information on the CHQOER/MCCF estimates of potential third party collections.

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OVERVIEW

Since fiscal year (FY) 1997, researchers at the Center for Health Quality, Outcomes and Economic Research (CHQOER) have estimated the Veterans Health Administration's (VA's) potential collections from third party payers for care provided to veterans at VA medical centers. The CHQOER estimation model was originally developed and refined by Medical Care Cost Recovery's "MCCF Goal Methodology" committee and staff. CHQOER researchers have continued to refine components in the estimation model (e.g., Hendricks et al., 1997a, 1997b).

One concern that has always been acknowledged but has been impossible to address is the model's implicit assumption that the proportion of patients with third party health insurance is equal to the proportion of care delivered to patients with such insurance. This assumption has led to the overestimate of potential billable amounts, but the size of the overestimate has been unknown. CHQOER has demonstrated that patients who were billed in FY 1995 averaged fewer inpatient days and more outpatient visits than those with no bill in that year (1997a, p. 8). Data from the 1992 National Survey of Veterans confirmed that VA patients with private health care coverage reported less health care from VA providers than patients without such insurance (1997a, p. 9). The model's simplifying assumption that the proportion of care covered by insurance was equal to the proportion of patients with coverage was necessary, however, because no data on the insurance status of all VA patients or a representative sample of them was available with which to estimate differences in their services.

This report addresses that concern by analyzing a unique survey of VA enrollees conducted in 1999 (Perlin, et al., 2000). CHQOER merged survey responses with VA utilization data for FY 1999. The analysis demonstrates the relative overstatement of utilization previously assumed for VA patients with private health insurance. The overstatement is considerably larger for non-Medicare enrollees with private health insurance than for Medicare enrollees with Medigap coverage.

This report presents detailed information about the data used in the analysis (Section II) and describes the insurance coverage of different groups of patients (Sections III and IV). Analyses of differences in utilization of VA services across the nation are the subject of Section V, while Section VI presents the information by network (VISN).

THE 1999 LARGE HEALTH SURVEY OF VA ENROLLEES

The 1999 Large Health Survey of VA Enrollees is the largest and most detailed survey of veterans using VA services ever conducted. The VA's Office of Quality and Performance funded the effort, which was conducted as a collaborative effort between that office and the VHA Health Assessment Project at CHQOER. This section briefly describes the survey sample, the questions, and the degree to which the respondents are representative of VA's veteran patient population. More information is available in a series of reports from the Office of Quality and Performance and the VHA Health Assessment Project (HAP).

Survey Sample

The sampling frame for the Large Survey was the VA enrollment file as of March 1999, which contained the names, addresses, and pertinent enrollment data for 3,613,877 live enrollees. A total of 1,500,000 enrollees (~43% of the total) were surveyed, using a stratified random sample (Perlin, 2000). Twenty percent of this sample were randomly assigned to each of five survey modules. Each module focused on one of the following five topics: 1) utilization/insurance, 2) satisfaction with care, 3) social support, 4) smoking and alcohol use, and 5) physical activity and diet. Each module shared 31 core questions about enrollees' health status measured by the Veterans SF-36, prevalence of medical and mental conditions, and sociodemographic factors including age, gender, marital status, education level, race, employment, living arrangements (living alone or not), and economic hardship (measured by a concern for having enough food).

The survey's overall response rate was 63.1% (n= 887,775). The response rates by VISN ranged from 57.7% to 68.5%. When weighted for non-response and for the stratification in selection of the sample, survey respondents provide a representative picture of the health status of the population of VA enrollees (Perlin, 2000).

Module Questions

The Utilization/Insurance module (n = 152,258) asked 10 questions about enrollees' insurance coverage and inpatient and outpatient utilization (Table 1). HAP researchers developed these questions with input from CHQOER's economics section and experts from the Management Science

Group of the Office of Planning, the Office of Alternative Revenues' Medical Care Collection Fund, and other VA programs and offices, using questions previously included on a variety of VA and non-VA surveys.

TABLE 1: UTILIZATION/ INSURANCE QUESTIONS – 1999 LARGE HEALTH SURVEY

- | |
|--|
| <p>32. Do you currently have Medicare (Part A) for hospital care?</p> <p>33. Do you currently have Medicare (Part B) for doctor office visits?</p> <p>34. Do you currently have a Medigap policy or other private health insurance to supplement your Medicare coverage?</p> <p>35. Is your current coverage with a Medicare HMO plan (also known as Part C)?</p> <p>36. Do you currently have private or group health insurance or a health plan that you, your employer, or someone else provides for you?</p> <p>37. Does the health insurance you use require you to select a certain doctor or a certain location for all your routine care?</p> <p>38. Do you have health insurance that covers only one type of service or care (such as dental care or Prescription drugs)?</p> <p>39. Do you currently have Medicaid (a public health insurance program run by the state for person whose household income and assets are below a certain level)?</p> <p>40. How many times have you used VA health care in the last 3 months?</p> <p>41. How many times have you used health care outside the VA in the last 3 months?</p> |
|--|

Module Representativeness

Respondents to the Utilization/Insurance module matched the full Survey sample almost exactly on measures of demographic characteristics and health status. For example, in terms of age distribution, gender, ethnicity, education, marital status, employment status and VA priority status, the respondents to the module were within only a few tenths of a percent of the distribution for the survey as a whole (Table 2).

TABLE 2: CHARACTERISTICS OF RESPONDENTS, WEIGHTED

Characteristics		Insurance Module %	Whole Survey %
Age	18-49	26.2	25.8
	50-64	29.9	29.7
	>=65	43.9	44.5
	Missing	0.1	0.1
Gender	Male	91.0	91.1
	Female	4.6	4.6
	Missing	4.4	4.3
Ethnicity	White	69.6	69.9
	Black	15.2	14.8
	Hispanic	5.6	5.6
	Other	5.5	5.6
	Missing	4.1	4.1
Education	<=12	49.6	49.5
	>12	42.3	42.6
	Missing	8.1	7.9
Marital status	Married	56.1	56.1
	Never Married	10.1	10.0
	Formerly Married	30.0	30.2
	Missing	3.9	3.8
Employment	Employed	33.7	33.3
	Retired	40.6	41.4
	Unable to Work	15.9	15.9
	Others	0.2	0.2
	Missing	9.6	9.3
VA Priority	1	12.1	12.1
	2	8.3	8.3
	3	14.8	14.8
	4	2.6	2.7
	5	35.9	36.0
	6	1.6	1.6
	7	7.8	7.8
	Missing	16.8	16.6

Module respondents are slightly more concentrated in the Northeast and South (VISNs 1-9 plus 16 and 17 sum to 62.5% of module respondents) than the overall survey (VISNs 1-9 plus 16 and 17 sum to only 58.5% of respondents for the whole survey) and consequently are (4%) less than the overall response in the Central and Western VISNs (Table 3). The actual numbers of respondents per VISN are large, ranging from 2,633 for VISN 14 to 13,796 for VISN 8 and 13,735 for VISN 16. These

sample sizes for VA networks are sufficient for estimates of utilization by insurance category within VISNs.

TABLE 3: GEOGRAPHIC DISTRIBUTION OF RESPONDENTS, WEIGHTED

VISN	Insurance Module %	Whole Survey %
1	5.1	4.7
2	3.1	2.9
3	5.9	5.6
4	6.4	6.1
5	2.7	2.5
6	5.5	5.0
7	6.3	5.7
8	8.8	8.3
9	4.8	4.7
10	3.3	3.8
11	3.9	4.1
12	4.3	4.4
13	2.3	2.5
14	1.6	1.8
15	3.6	3.9
16	9.1	8.6
17	4.8	4.4
18	4.8	4.5
19	2.7	2.7
20	3.3	4.2
21	3.3	4.2
22	4.4	5.3
Missing	0.1	0.1

The respondents to the Utilization/ Insurance survey questions are also virtually identical to overall survey respondents in terms of health status: mean number of chronic diseases self-reported by respondents and SF-36 summary PCS and MCS scores (Table 4) or the proportions of respondents reporting any of 15 prevalent conditions such as diabetes, PTSD, or heart attacks (Table 5).

TABLE 4: HEALTH STATUS OF RESPONDENTS, WEIGHTED

Health Status	Insurance Module	Whole survey
Mean # of Chronic Diseases*	3.18	3.20
Mean PCS	36.93	36.91
Mean MCS	45.05	45.08

*Average number of chronic diseases out of 15 self-reported chronic diseases

TABLE 5: PROPORTION OF RESPONDENTS REPORTING SPECIFIC DIAGNOSES, WEIGHTED

Prevalent Conditions	Insurance Module %	Whole Survey %
Hypertension	49.3	49.6
Prostatic hypertrophy	23.1	23.3
Low back pain	40.0	39.9
CHF	13.2	13.4
Stroke	8.6	8.8
Arthritis	50.0	50.2
Angina	18.7	18.6
Heart attack	15.3	15.4
Lung disease	19.2	19.3
Cancer	10.8	10.9
Depression	29.6	29.6
PTSD	14.0	14.1
Schizophrenia	4.1	4.1
Spinal cord injury	3.6	3.6
Diabetes	18.6	18.8

Overall, we conclude that the respondents to the insurance/utilization module are similar to overall respondents and the analyses based on the insurance/utilization module provide a representative picture of insurance coverage and utilization for all VA enrollees. All the analyses described below are weighted to represent the population of VA enrollees. For details on the sampling weights, see Perlin, et. al. (2000). We deleted the small proportion of module respondents with no insurance information from calculations of the percentages in each insurance group. Consequently, the percentages with insurance reported here differ slightly from earlier percentages reported to the Office of Alternative Revenues.

We needed to know in greater detail than was available in the survey itself how these enrollees used the VA, so we used the Patient Treatment File (PTF) datasets and the Outpatient (OPC) datasets maintained at the VA's Austin (Texas) Automation Center to determine the frequency and type of utilization of the VA. We merged the survey and utilization data for FY 1999, using VA's unique patient identifiers. For inpatient care, we examined the distribution of discharges and inpatient days by insurance coverage group. For outpatient care, we compared the total number of visits and procedures, measured by CPT codes. For both inpatient and outpatient care, we also calculated the value of the services in PTF and OPC using the MCCF's reasonable charges. VA is authorized by statute (PL 105-33) to bill insurers for the reasonable charges for care and services the VA provides. These reported charges represent the estimated amounts that MCCF could bill for the services if the veteran had billable insurance.

Validity of the Survey Insurance Information

The self-reported insurance coverage information from the Utilization/Insurance module has validity in two respects: 1) the self-reports of Medicare coverage (with or without additional Medigap insurance) are similar to rates from merged VA and Medicare data; and 2) comparisons of self-reports with MCCR billing data for FY 1999 show a high degree of correlation between patients who report insurance and those whose insurers were billed by VA.

Medicare Coverage. When we compared the Medicare insurance rates obtained from the Large Survey with data obtained by CHQOER from HCFA for another study of veterans' care in VISNs 1 and 2, we find the two sets of data show similar rates of Medicare eligibility. The Large Survey shows that Medicare eligibility ranges from 22.7% for veterans aged 18-64 to 91.2% for veterans aged 65 or older. For VISNs 1 and 2, the rates from the survey are slightly higher, 24.6% and 92.4%. Medicare data for calendar 1996 obtained by CHQOER for VISNs 1 and 2 show corresponding rates of Medicare eligibility of 25.3% and 95.5% (Hendricks et. al., 1999). The rates from the Large Survey are quite consistent with the rates CHQOER calculated from 1996 data. In addition, the pattern of self-reported Medicare enrollment across VISNs is consistent with the pattern reported by Wright in showing higher rates of Medicare enrollees in VA's northeastern networks and lower rates in western VISNs (Wright, 2000). Given this agreement with independent data, we are confident that

the rates calculated from the Large Survey are representative for the VA patients in the sampling frame.

Matching Insurance Classification With VA Billing. We also checked the insurance status reported in the Large Survey against billing activity by VA in FY1999. Robert Hinson of the Office of Alternative Revenues provided CHQOER with skeletal information from a data set with billing information painstakingly compiled from the separate VA facilities. From this information, we were able to tell whether a respondent's insurance company had been billed during FY1999 for services that the VA provided. We could further distinguish whether the services billed for had been provided during FY1999 and whether a payment had been received on the bill.

Only those veterans who have either Medigap or other private insurance should have their insurers billed for services. Even so, there are several reasons why the VA might not bill a respondent who has private insurance or why a respondent might have been billed even though the Survey data show that the respondent has neither Medigap nor other private insurance. First, VA may not have issued FY 1999 bills by the time the billing datasets were abstracted because not all services delivered by VA to insured veterans are billable or the billing may be delayed. If the treatment takes place near the end of the fiscal year, if verification of the insurance information is difficult, or if complex treatment requires discussion or negotiation with the insurer, VA may not submit the bill in FY1999 even though the treatment was provided in that year.

In addition, the veteran may not always inform the VA about private insurance policies or the VA may bill workers' compensation or other policies rather than health care insurance. The Survey was administered mostly in the last quarter of FY1999. The respondent's insurance status may have changed between the time medical treatment was provided and the time the respondent filled out the survey form. Finally, some stations have been more successful than others in identifying veterans who have insurance or in billing insurers for services.

Considering these reasons for a less than perfect match between billing records and insurance status from the Survey, we concluded that three comparisons would be most informative:

1. The aggregate percentage of VA users in FY1999 whose insurers the VA has billed should be close to the analogous percentage among respondents to the utilization-insurance module.

2. Most module respondents whose insurers have been billed by the VA should report having either Medigap or other private insurance.
3. Module respondents who are categorized as Priority 7 should be much more likely than other respondents to have their insurers billed, since Priority 7 veterans do not have service-related disabilities and have incomes above the VA ceilings for qualification in Priority Group 5.

We could also phrase these comparisons in terms of respondents for whom there has been a payment on a bill. That restriction would reduce instances of false confirmations when a bill has been created in error, but it also would increase the chances of erroneous failures to confirm when a payment simply has not yet been made on a legitimate bill. We examined the comparisons in terms of both billing and payment. Comparisons were limited to the 147,124 respondents who were identified as users of the system with VA utilization in either PTF or OPC files for FY1999.

Using the FY1999 file of the Allocation Resource Center (ARC), there were 3,476,931 distinct users of the VA healthcare system. The data provided to us by Robert Hinson included bills for 469,512 people, or 13.5% of all users as measured by the ARC's data. Using the PTF and OPC data files, we get a slightly higher count of distinct users of the system in FY1999: 3,531,803. VA billed the insurers for 13.3% of this population of enrolled patients in FY1999. We calculate that 13.2% of respondents, weighted to represent the enrollee population, would have had a bill. The proportions are close enough for us to be reasonably confident that the utilization/insurance module is representative of the larger population of VA patients in FY1999 in terms of identifying those whose insurers were billed.

Table 6 shows that the second comparison is reasonably well satisfied by the Survey data. Of all respondents who were VA patients in FY1999 and whose insurers were billed by the VA in FY1999, 65.0% had Medigap and 22.3% had other private insurance, for a total of 87.3%. In our judgment, considering all of the ways in which we could fail to find a match even though a legitimate match is present, this rate of match is very high. The match rate is somewhat higher, 90.5%, for those with a bill payment in FY1999 (not shown).

Table 7 shows that the third comparison is also reasonably well satisfied by the Survey data. For priority groups 1-6 who used the VA in FY1999, the percentage whose insurers were billed in

FY1999 ranges between 13% and 15%. The exception is priority group 4, for whom the percentage falls below 10%. But for priority group 7, the rate is 27%, substantially higher than for other groups. When the comparison focuses on payment for a bill, again priority group 7 is higher than all others, this time by 17% compared to a high of 11.5% for priority group 2 (not shown).

TABLE 6: INSURANCE STATUS BY BILLED STATUS, WEIGHTED

Insurance Status in Survey	Billed Status	
	No	Yes
With Billable Insurance	39.5	87.3
<i>Medigap</i>	21.4	65.0
<i>Other private insurance</i>	18.1	22.3
No Billable Insurance	60.1	12.5
<i>Medicare, no Medigap</i>	27.5	8.0
<i>No insurance</i>	32.6	4.5
Status Unknown	0.4	0.3
Total	100%	100%

TABLE 7: PROPORTION OF PATIENTS BILLED BY PRIORITY CATEGORY, WEIGHTED

VA Priority Category	Percent billed
1	13.2
2	15.5
3	13.9
4	9.2
5	11.8
6	15.1
7	27.2
Total	13.2

INSURANCE COVERAGE AND PATIENT CHARACTERISTICS

To keep these analyses parallel to the way the CHQOER/MCCR estimation model deals with insurance, we present all comparisons of utilization by private health insurance status by whether the respondents also reported any type of Medicare coverage. The CHQOER/MCCR model estimates workload separately for VA enrollees who are also enrolled in Medicare and enrollees who are not covered by any Medicare policy. This distinction is due to the difference in the insurance coverage for Medicare enrollees (also commonly called "Medigap" insurance) compared to other private, third-party insurance coverage. Medigap policies cover only a patient's deductibles and co-insurance payments, which are usually 20% of the Medicare allowable rates for outpatient care and one day out of each inpatient stay (for stays less than 90 days).

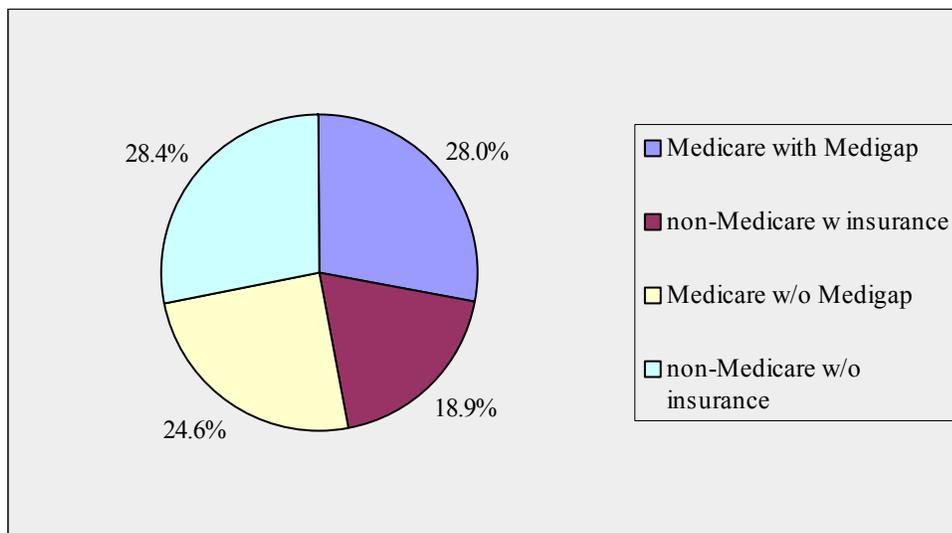
If the respondent answered 'Yes' to any of questions 32-35 listed in Table 1 above, we considered the person to be enrolled in Medicare. If the person was enrolled in Medicare and answered 'Yes' to either question 34 or 36, we classified the person as having Medigap insurance. If the person was not enrolled in Medicare but answered 'Yes' to question 36, we classified the person as non-Medicare with private insurance. Less than five percent of respondents reported having Medicaid coverage and almost all of these also had Medicare. Medicaid enrollees were categorized according to their other insurance coverage and approximately one percent of patients reported here as having no public or private insurance reported Medicaid.

Overall, 53% of respondents reported Medicare coverage. More than half of Medicare enrollees have purchased Medigap (53.2%) and 40 percent of patients without Medicare have purchased private insurance (Table 8). Thus, almost half of all veterans who are VA patients have some type of private health insurance coverage (Figure 1): 28% (52.5% * 53.2%) of all respondents have Medigap, 18.9% (47.2% * 40%) have private insurance without Medicare.

TABLE 8: INSURANCE COVERAGE FOR RESPONDENTS BY MEDICARE STATUS

	Medicare Enrollees	Non-Medicare
% of Total	52.5%	47.2%
With Insurance	53.2%	40.0%
Without Insurance	46.8%	60.0%

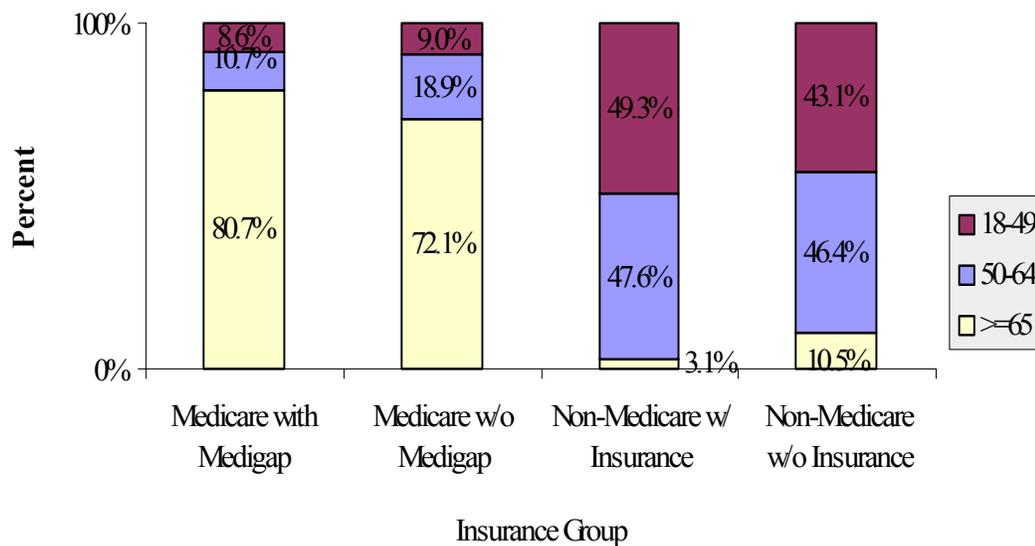
Figure 1: VA Enrollees' Insurance Coverage Age



People are eligible for Medicare either because they are aged 65 or older and have met the requirements for paying into the system or because of their disability status under Medicare (not VA) regulations. Given that almost all elderly people are eligible to be covered by Medicare, there is considerable difference in the health care coverage for VA users under age 65 and those age 65 or older.

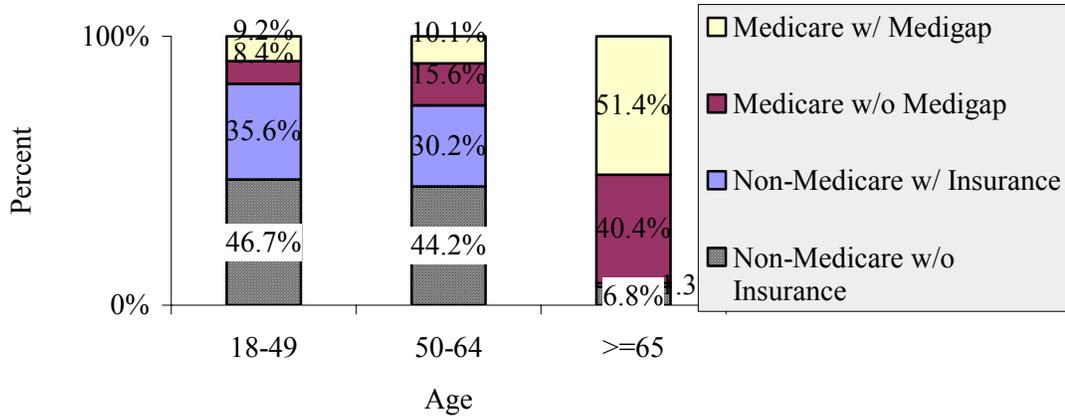
Respondents age 65 or older account for 80.7% of VA’s Medicare enrollees with Medigap, 72.1% of Medicare without Medigap, but only 3.1% of non-Medicare enrollees who have private insurance or 10.5% of non-Medicare enrollees without insurance (Figure 2). Patients who are not Medicare enrollees, but who have private health insurance are predominantly veterans under age 50 (49.3%) or age 50 through 64 (47.6%). Similarly, patients with no insurance options are fairly evenly split between those two age groups.

Figure 2: Patient Age by Insurance Group



Insurance coverage summarized within the three age groups (Figure 3) underscores that younger veterans (<65) are more likely than older veterans to have no private insurance coverage. For example, 59.8% of people age 50-64 and 55.1% of people under 49 have no private insurance, but only 47.2% of people age 65 or older have none. More than half of people age 65 or older have Medigap (51.4%). More patients 35.6% of people age under 50 and 30.2% of people age 50-64 are non-Medicare population with private insurance.

Figure 3: Patient Insurance by Age Group



VA Priority Category

For the VA’s 7 priority categories, enrollees who are 50% or more disabled with a service-connected disability have the highest priority for care. Enrollees who do not qualify for VA enrollment through disability, low income or other special condition agree to pay a set co-payment for VA services and have the lowest priority (Priority 7 = former Category C). Table 9 summarizes definitions of VA’s seven priority categories.

TABLE 9: DEFINITION OF PRIORITY CATEGORIES

Priority 1. Service connected disability of 50 percent or more
Priority 2. Service connected disability of 30 or 40 percent or more
Priority 3. Service connected disability of 10 or 20 percent or more, plus former POWs
Priority 4. Aid and attendance, housebound, catastrophically disabled
Priority 5. Income and net worth below established thresholds
Priority 6. WWI. “Agent Orange”, “Gulf War Syndrome”, compensable 0%
Priority 7. Formerly Category C

Table 10 lists the proportion of patients in each insurance category who have each of the seven priority levels. For example, of all respondents with both Medicare and Medigap coverage, 14.0% are in Priority group 1 (50% + service connected). VA patients without private insurance are disproportionately low income (Priority 5) or catastrophically disabled (Priority 4). In contrast, those with either Medigap or other types of private policies are more likely to be Priority 7 or to have lower percentages of service-connected disability.

TABLE 10: PRIORITY CATEGORY BY INSURANCE GROUP, WEIGHTED

<i>Priority</i>	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
1	14.0	17.4	12.2	14.0
2	10.5	6.7	16.1	8.6
3	19.2	10.4	30.5	15.1
4	2.4	6.7	0.3	2.5
5	36.8	53.3	22.0	53.4
6	1.7	0.8	4.5	1.7
7	15.5	4.7	14.3	4.5

Table 11 presents the proportion of patients in each priority group with each of the four insurance coverage combinations. For example, 26.5% of patients in Priority 1 report both Medicare and Medigap coverage. This summary underscores that most VA patients have options for health care in the private sector, through Medicare and/or private health insurance. Low income (priority group 5) patients are most likely to have no private or public coverage. Priority groups 1, 4 and 5 are most likely to lack Medigap supplements to their Medicare coverage.

TABLE 11: INSURANCE GROUP BY PRIORITY CATEGORY, WEIGHTED

Insurance Group	Priority						
	1 %	2 %	3 %	4 %	5 %	6 %	7 %
Medicare w/ Medigap	26.5	28.9	29.7	20.5	23.5	23.7	45.6
Medicare w/o Medigap	30.6	17.1	15.0	54.5	31.7	10.1	13.0
Non-Medicare w/ Insurance	15.1	29.0	30.8	1.9	9.1	40.7	27.4
Non-Medicare w/o Insurance	27.8	24.9	24.5	23.1	35.6	25.5	14.0

Patients' insurance coverage varies by respondents' priority category. Almost three-quarters (73%) of respondents with priority 7 have private insurance (45.6% Medigap and 27.4% non-Medicare with private insurance) and 64.4% of those with priority 6 have coverage. In contrast, only 22.4% of priority 4 respondents have private health care insurance (20.5% Medigap and 1.9% non-Medicare with private insurance). The next lowest proportions are for priority group 5 (32.6%) and priority 1 (41.6%).

In sum, respondents who are catastrophically disabled (priority 4), with low-income (priority 5) or with service-connected disability of 50 percent or more (priority 1) are much less likely to have private insurance. Respondents with higher income (priority 7) or lower disability status (priority 2 or 3) tend to have Medigap and private insurance. These patterns are probably related to affordability and need. That is, inability to pay for insurance could be the reason the majority of people in priority groups 4 and 5 have no private insurance or have only basic Medicare coverage. On the other hand, VA enrollees with high priority (50%+ service-connected disability) may choose not to purchase private insurance because they can get all their care from the VA for free and may not think they need additional private coverage.

Health Status

Respondent health status was measured by the veterans SF-36 physical (PCS) and mental (MCS) summary scores. Higher scores indicate better health. A difference of 3 points on the PCS scale is equivalent to the impact of having diabetes and having osteoarthritis is associated with 2 points less on the MCS scale (Perlin et al., 2000, p. 10A-10). We also report the mean number of self-reported chronic diseases (out of a total of 15 possible) for each insurance group.

With the highest PCS (42.4) and MCS (48.3) scores, VA enrollees without Medicare who have purchased private insurance exhibit the best physical and mental health (Table 12). They also report fewer chronic diseases than any other insurance group. Individuals with Medicare but without Medigap exhibit the worst physical and mental health and have more chronic diseases than others.

TABLE 12: HEALTH STATUS BY INSURANCE GROUP, WEIGHTED

Health Status	Medicare w/ Medigap	Medicare w/o Medigap	Non-Medicare w/ Insurance	Non-Medicare w/o Insurance
Mean of Chronic Diseases*	3.6	4.0	2.1	2.8
PCS mean	35.9	32.3	42.4	38.1
MCS mean	47.5	42.5	48.3	42.7

*Average number of chronic diseases out of 15 self-reported chronic diseases

Table 13 presents the proportion of respondents reporting specific chronic diseases by insurance group. These reports do not imply current diagnoses, but rather whether a doctor has ever told the respondent that they have a particular condition. Thus, the percentages represent lifetime occurrences of the conditions.

Older respondents tend to have Medicare coverage and are more likely to report diagnoses of heart conditions, prostate conditions, cancer, and diabetes. The proportions reporting mental illness

TABLE 13: PROPORTION OF RESPONDENTS REPORTING SPECIFIC DIAGNOSES BY INSURANCE GROUP, WEIGHTED

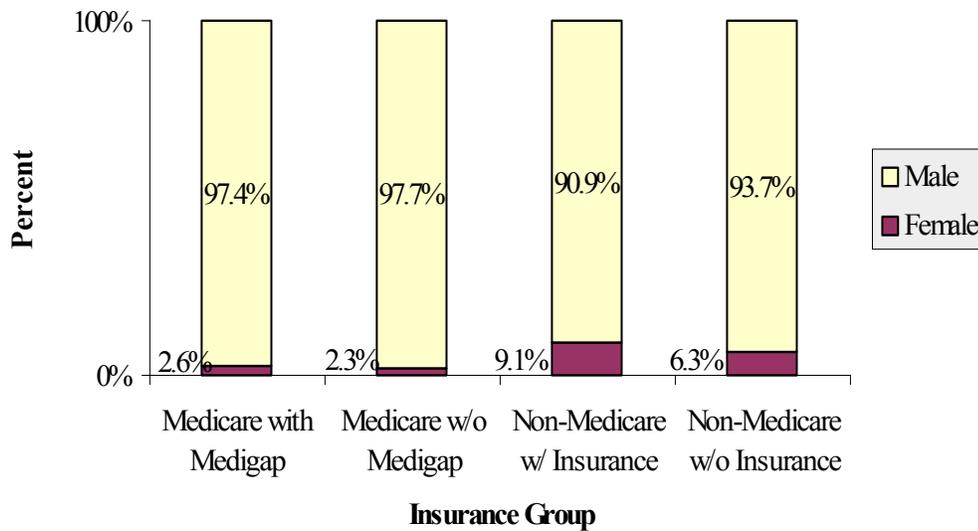
Prevalent Conditions	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
Hypertension	55.0	59.3	37.3	43.3
Prostatic hypertrophy	36.3	30.1	11.1	12.1
Low back pain	39.2	42.5	37.5	40.5
CHF	16.7	20.9	4.0	9.2
Stroke	11.0	13.8	2.4	5.9
Arthritis	56.9	58.4	39.5	43.0
Angina	26.8	25.7	8.5	11.5
Heart attack	21.1	21.8	6.6	9.9
Lung disease	19.9	25.0	12.7	18.0
Cancer	16.5	14.5	4.8	5.9
Depression	23.3	34.9	23.4	35.2
PTSD	9.5	16.2	11.4	18.1
Schizophrenia	2.2	6.4	1.8	5.7
Spinal cord injury	3.3	5.4	1.6	3.6
Diabetes	22.0	24.4	11.4	15.1

(depression, PTSD, schizophrenia) are very similar for Medicare enrollees and younger patients, with patients in either age-related category who have no private insurance (neither Medigap nor other coverage) more likely to report the mental condition. Indeed, both groups without private health care coverage are more likely to report most of the 15 conditions, compared to either veterans with Medicare plus Medigap or with non-Medicare private insurance coverage.

Other Characteristics

Women account for only 4.6% of VA enrollees, but are an even smaller proportion of the Medicare-enrolled VA population either with (2.6%) or without (2.3%) Medigap coverage (Figure 4). Among non-Medicare-enrolled patients, women account for 9.1% of those without private insurance and 6.3% of those with no other insurance options.

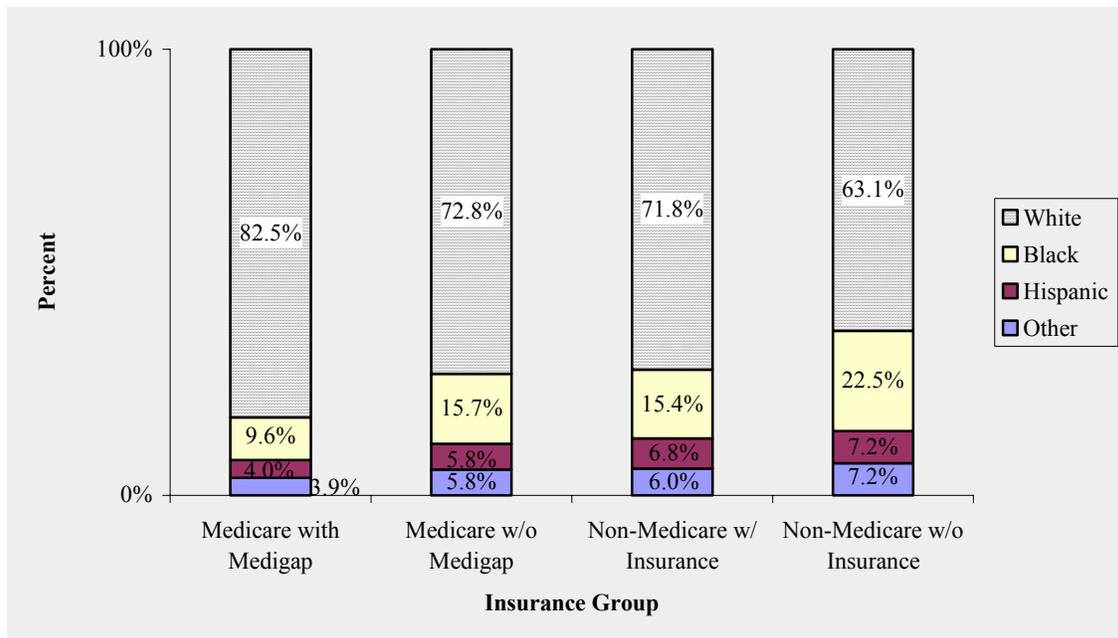
Figure 4: Patient Gender by Insurance Group



White veterans are the majority of VA patients and they comprise a larger share of the Medicare-enrolled patients population (Figure 5) and of insured patients, whether in Medicare or not.

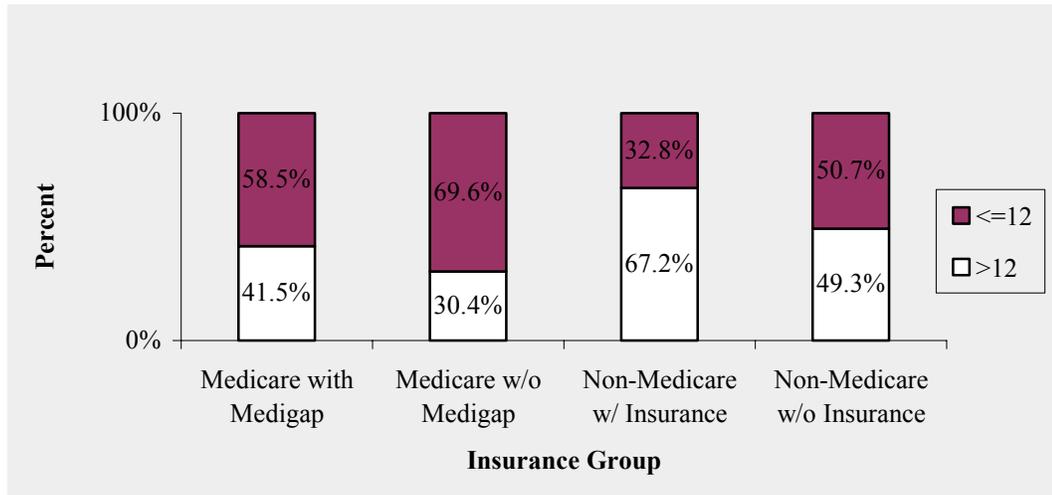
Educational levels are highly correlated with age in the general veteran population. Younger veterans and VA patients are more highly educated. Consequently, higher proportions of the non-Medicare-enrolled VA patient population have more than a high school education. For example, 67.2% of non-

Figure 5: Patient Ethnicity by Insurance Group



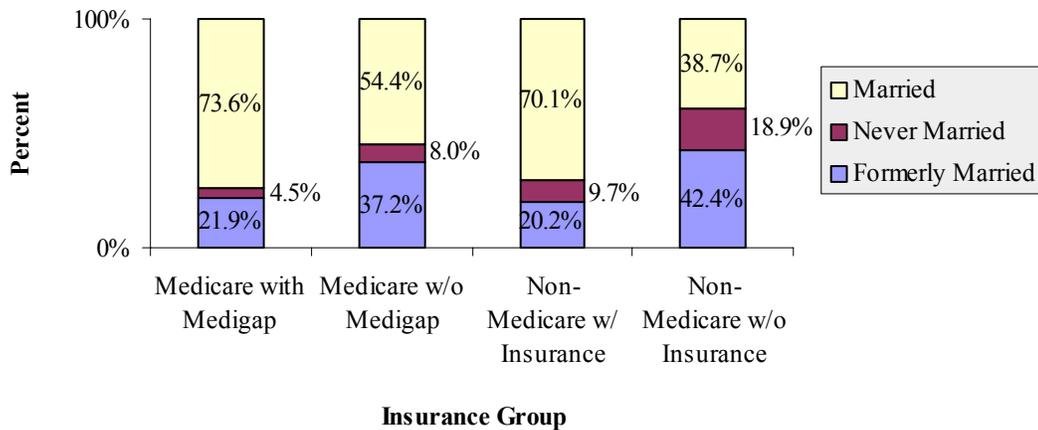
Medicare enrollees with private insurance have some education beyond high school compared to 41.5% of Medicare enrollees with supplemental private insurance (Figure 6). In addition, patients with private insurance are more likely than those without such insurance to have education beyond high school. Among non-Medicare enrollees, 67.2% of those with insurance are more than high school graduates, compared to 49.3% of those with no public or private insurance.

Figure 6: Patient Education by Insurance Group



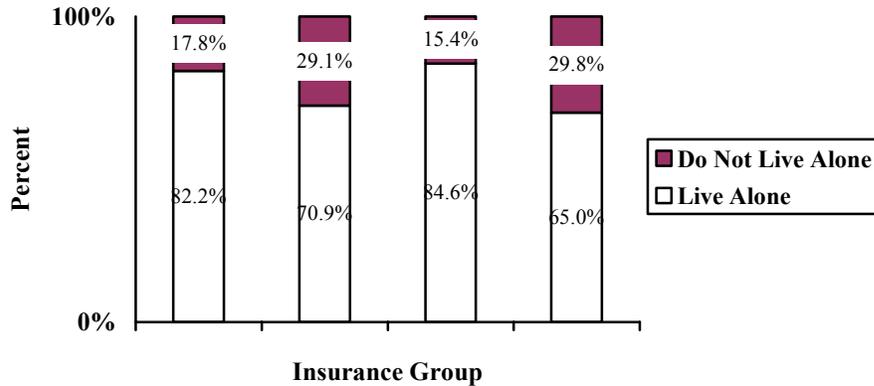
Veterans are generally married. VA patients with private health care insurance are more likely to be married than those without such private coverage (Figure 7). Patients with no public or private insurance are the least likely to be married (38.7%) and the most likely to have never married (18.9%) or have been married in the past (42.4%).

Figure 7: Patient Marital Status by Insurance Group



Most VA patients live with someone else (Figure 8), whether married or not, but those without private insurance are more likely to live alone (29%) than patients with Medigap (17.8%) or other private insurance (15.4%).

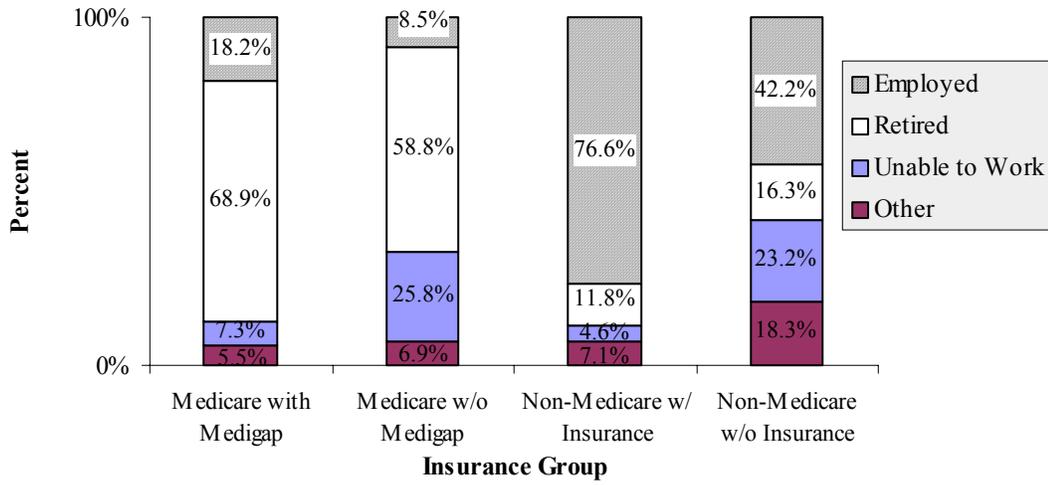
Figure 8: Patient Living Arrangement by Insurance Group



Insurance coverage is related to patients’ employment status. Medicare enrollees in the VA patient population are predominantly retired (Figure 9), but those who have purchased Medigap coverage are more than twice as likely to be employed as those who do not have the extra coverage (18.2% compared to 8.5). Employed enrollees account for 76.6% of the patients with only private insurance. Conversely, respondents without private insurance are far more likely to be unable to work.

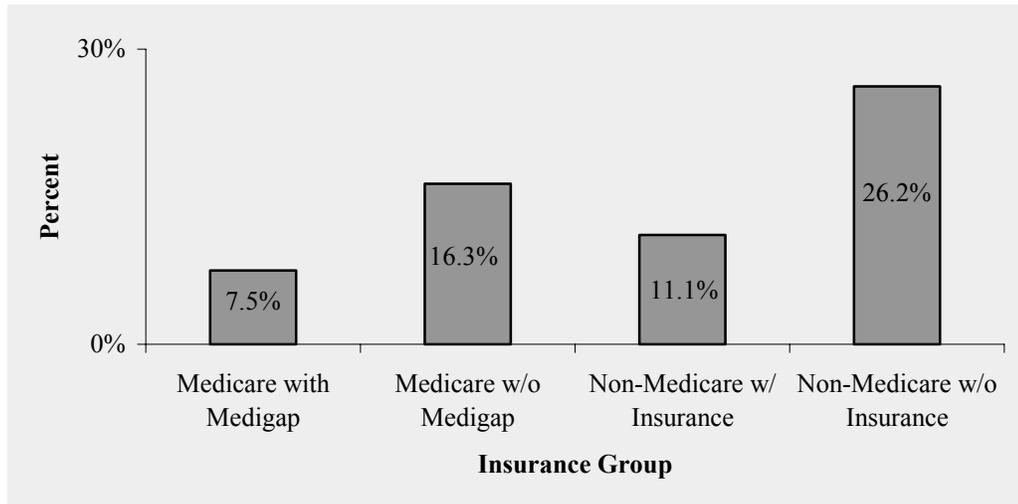
VA enrollees without Medigap or other private insurance are more likely to report economic hardship than other enrollees (Figure 10). The Large Survey included the question: In the past 30 days have you been concerned about having enough food for you or your family? If respondents answered “Yes” to this question, we considered them to be facing greater economic burdens than those who answered “No.” For enrollees with no public or private insurance, 26.2% reported worry about having food and 16.3% of Medicare enrollees without Medigap coverage responded “yes” to this

Figure 9: Patient Employment Status by Insurance Group



survey question. The proportions for enrollees with private insurance or with both Medicare and private insurance were 11.1% and 7.5%, respectively.

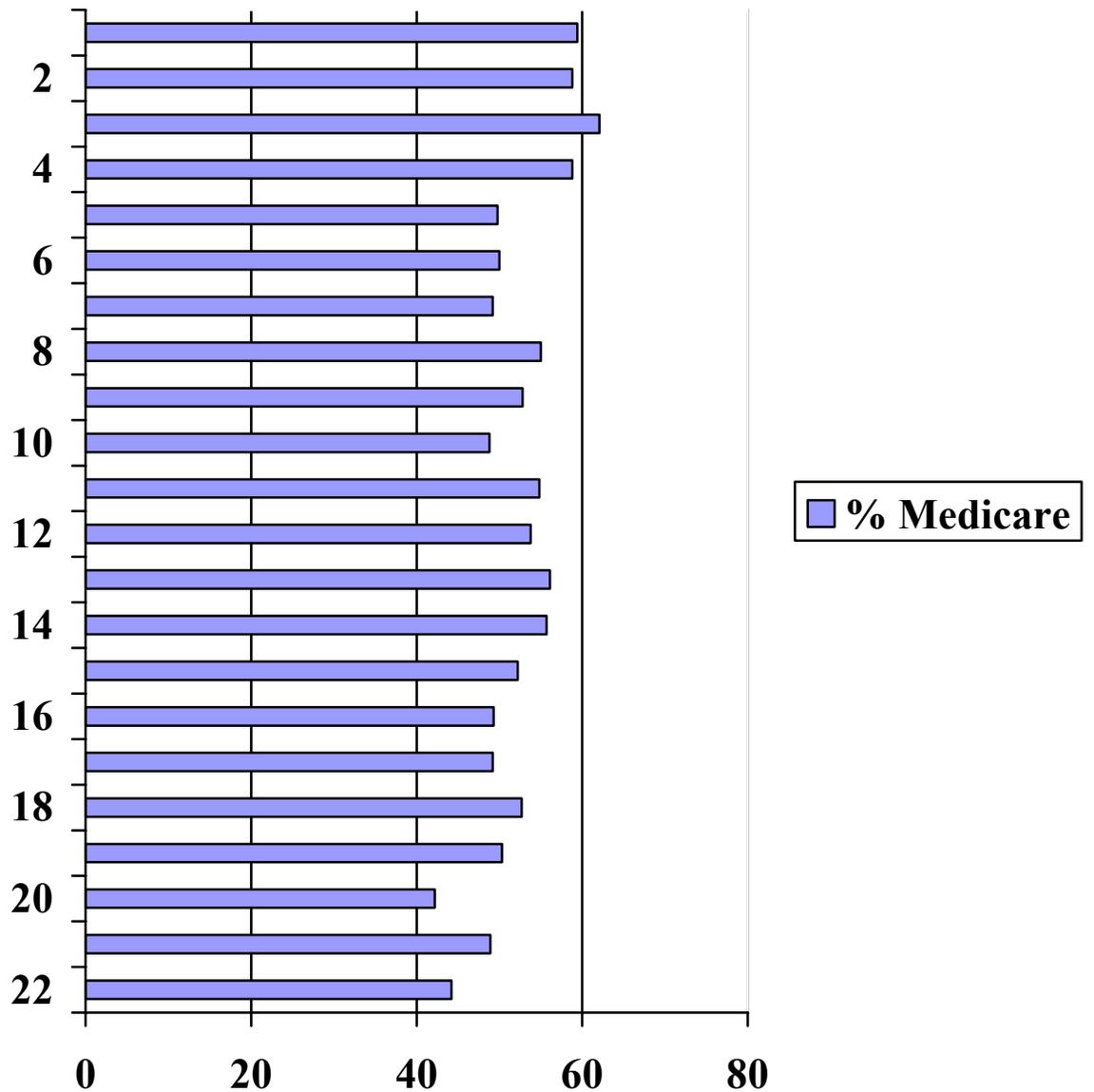
Figure 10: Percentage of Patients in Insurance Groups Who Report Economic Hardship



DIFFERENCES IN INSURANCE COVERAGE BY VISN

Insurance coverage varies across VISNs. For example, the percentage of enrollees with Medicare varies by a factor of 1.5. While the national average of VA patients in Medicare is 52.6%, only 46.2% of enrollees in VISN 20 have Medicare coverage compared to 62.1% of patients in VISN 3 (Figure 11).

Figure 11: Percentage of Patients in VISN with Medicare Coverage, Weighted



The percentage of enrollees with private insurance also varies by a factor of 1.5 (Figure 12). In VISN 4, 57.6% of enrollees have private insurance (37.7% have Medigap and 19.9% have other private insurance) compared to only 37.6% in VISN 22 (20.4% with Medigap and 17.2% with other private insurance). The CHQOER/MCCR model took these differences into account in the most recent estimates of potential third party collections using the new data from the Large Survey.

Another way to compare enrollees across the VISNs is by the percentage of enrollees who have neither public nor private insurance and hence have no options for health care beyond VA. VISN 3 has the lowest percentage of enrollees with no public or private insurance (20.6%) and VISN 22 has the highest (38.6%). Figure 13 also demonstrates that Medicare is the major alternative coverage for VA enrollees because more veteran patients have Medicare coverage than have only private insurance (and Medicaid is almost always in addition to Medicare). Therefore, VISNs with fewer enrollees on Medicare have more enrollees without any alternative coverage. The correlation between the percentage of VA-Medicare dual enrollees with the percentage of VA enrollees without alternative coverage by VISNs is $-.89$. This relationship is explored in a report of the Office of Quality and Planning (Shen, et al., 2000).

DIFFERENCES IN UTILIZATION BY INSURANCE STATUS

Using FY 1999 PTF and OPC files, we found that VA enrollees with Medigap or other private insurance used proportionately less VA care than those without any private insurance. Although insured enrollees were 47% of all veteran patients, they accounted for only 20% of all inpatient discharges, 21% of the value of inpatient care (as measured by MCCF's reasonable charges). Similarly, insured enrollees account for about 30% of all outpatient visits, but less than 27% of reasonable charges for outpatient care.

Figure 12: Percentage of Patients in VISN with Private Insurance, Weighted

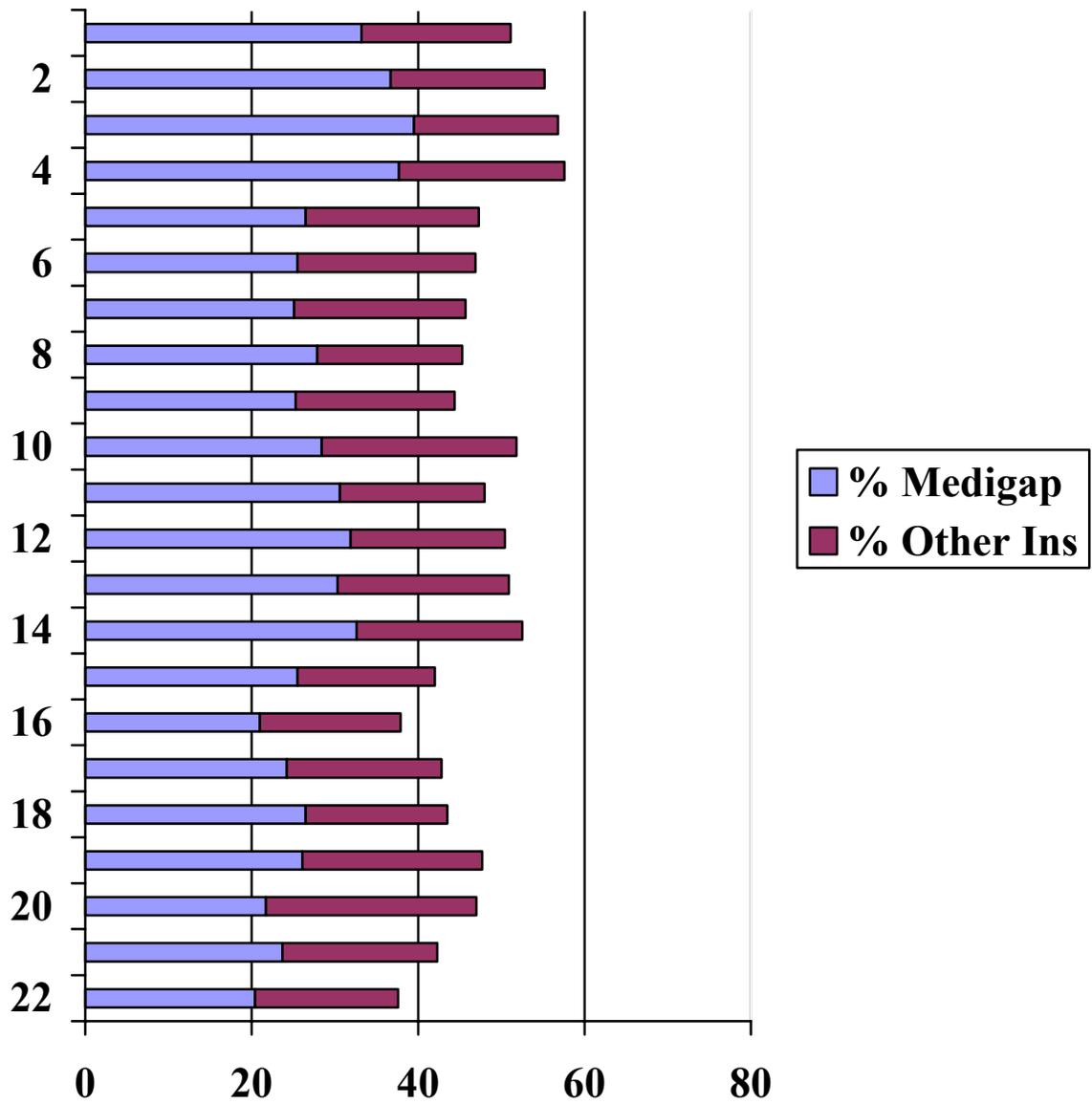
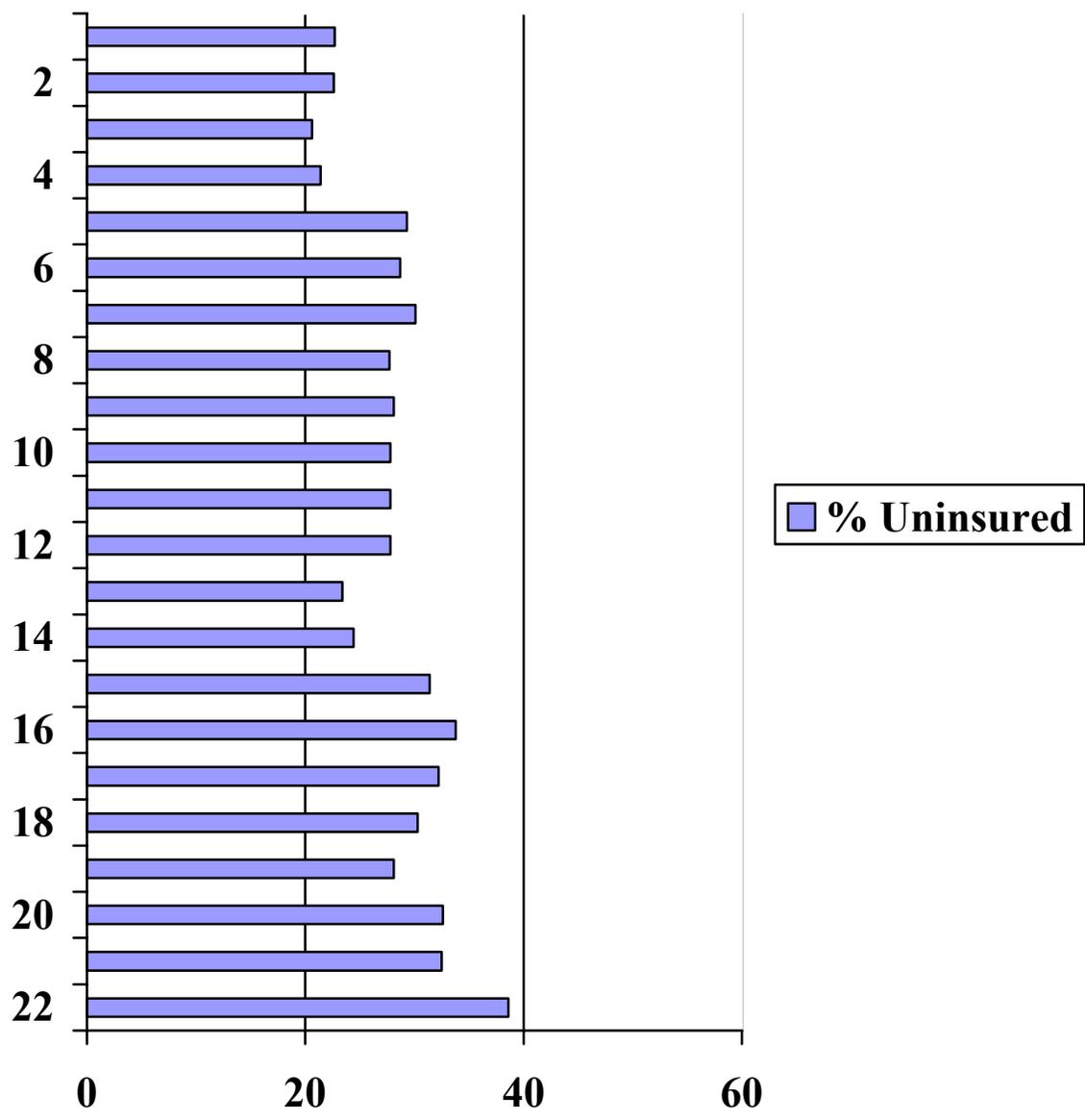


Figure 13: Percent of Patients in VISN with No Public or Private Insurance, Weighted



Total Workload

Inpatient. Even though 28% of VA enrollees have Medigap and 18.9% have other private insurance, the percentage of total discharges accounted for by these two insurance groups is only 15.4% and 4.6%, respectively (Figure 14 and Appendix Table 2). These differences are due in part to patient characteristics, but VA researchers have also demonstrated that dually-eligible VA patients, especially those over age 65, receive considerable care from Medicare providers (Desai, et al., 2000).

Inpatient length of stay and the reasonable charges for inpatient care also vary in part by patient characteristics and condition. To capture these factors affecting resource use, we calculated the VA's reasonable charges for each inpatient stay as the number of days times the daily charge VA sets for the DRG for that stay. Overall, individuals with Medigap used only 17.8% of total inpatient resources measured by the reasonable charges for the care and 3.2% of VA inpatient resource used by individuals with other private insurance (Figure 14 and Appendix Table 2).

Figure 14: Percentages of Inpatients and Workload by Insurance Group

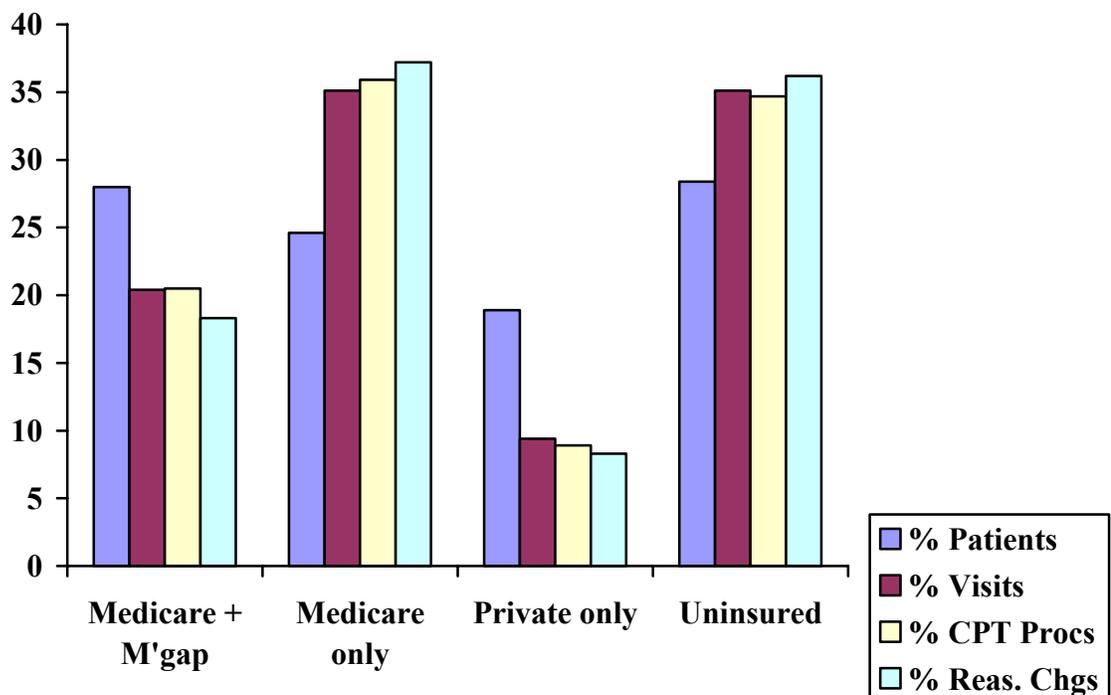
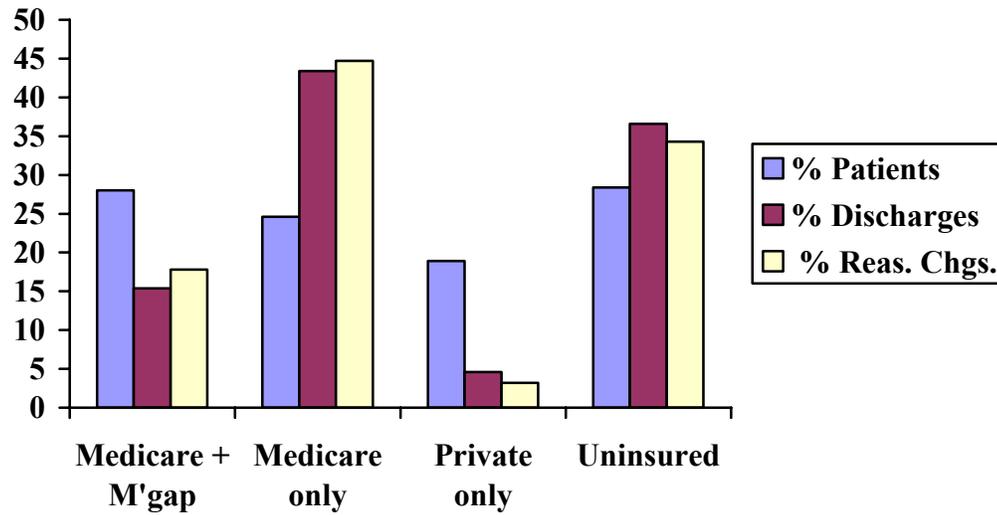
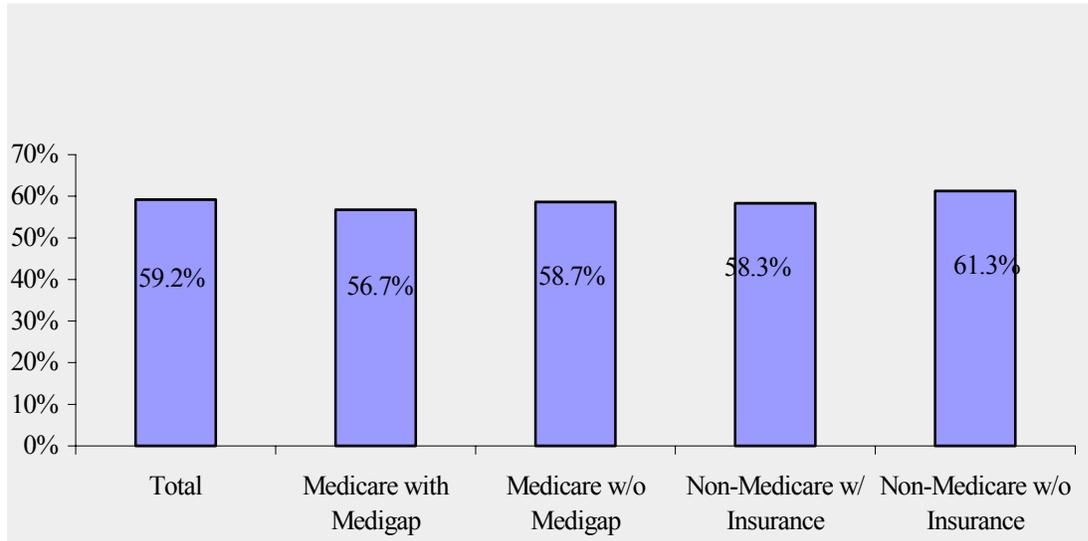


Figure 15: Percentages of Outpatients and Workload by Insurance Group



Outpatient. Enrollees with Medigap or other private insurance also used disproportionately less outpatient care. Only 20.4% of total outpatient visits were for patients with Medigap and 9.4% for those with other private insurance (Figure 15 and Appendix Table 3). In order to capture the intensity of care and resource use, we also present the total number of procedures as measured by CPT codes and generate total reasonable charges for MCCF-priced CPT codes. The percentages of all procedures delivered to individuals with Medigap and other private insurance are 20.5% and 8.9%, respectively (Figure 15). Individuals with Medigap used 18.3% of total outpatient resources (measured by reasonable charges) and 8.3% were used by individuals with other private insurance (Figure 15). Overall, only 59.2% of all CPT codes were priced. This number varied slightly across insurance groups (Figure 16).

Figure 16: Percentage of CPT codes with MCCF-price



There are two major reasons for the disproportionately lower use of the VA by veterans with private insurance. First, fewer patients with Medigap or other private insurance had any inpatient or outpatient care in VA. For example, only 2.7% of veterans who were not in Medicare but had private insurance and 5.1% of Medicare enrollees with Medigap coverage had inpatient care in VA in FY 1999, compared to 14.7% of Medicare enrollees without Medigap and 11.6% of individuals who had no public or private insurance. More than 80% of individuals without Medigap or other private insurance had VA outpatient visits, but only 56.2% of non-Medicare enrollees who had private insurance and 69.2% of Medicare enrollees with Medigap coverage (Figure 17).

Second, patients with Medigap or other private insurance who used VA inpatient and outpatient care used less care than patients without private insurance. VA patients who were Medicare enrollees with Medigap averaged 1.57 inpatient stays in FY 1999 compared to 1.74 for patients with Medicare but without Medigap. Non-Medicare enrollees with other private insurance who used VA inpatient services averaged 1.32 inpatient stays in FY 1999 compared to 1.61 for inpatients with no public or private insurance. Among VA outpatients in FY 1999, Medicare-enrolled patients with Medigap had 9.69 outpatient visits; Medicare enrollees without supplemental insurance had 15.1. Patients

with private insurance and no Medicare had 8.17 visits; those with neither public nor private insurance had 13.9 (Figure 18).

Figure 17: Percentage of Patients with VA Inpatient or Outpatient Care by Insurance Group

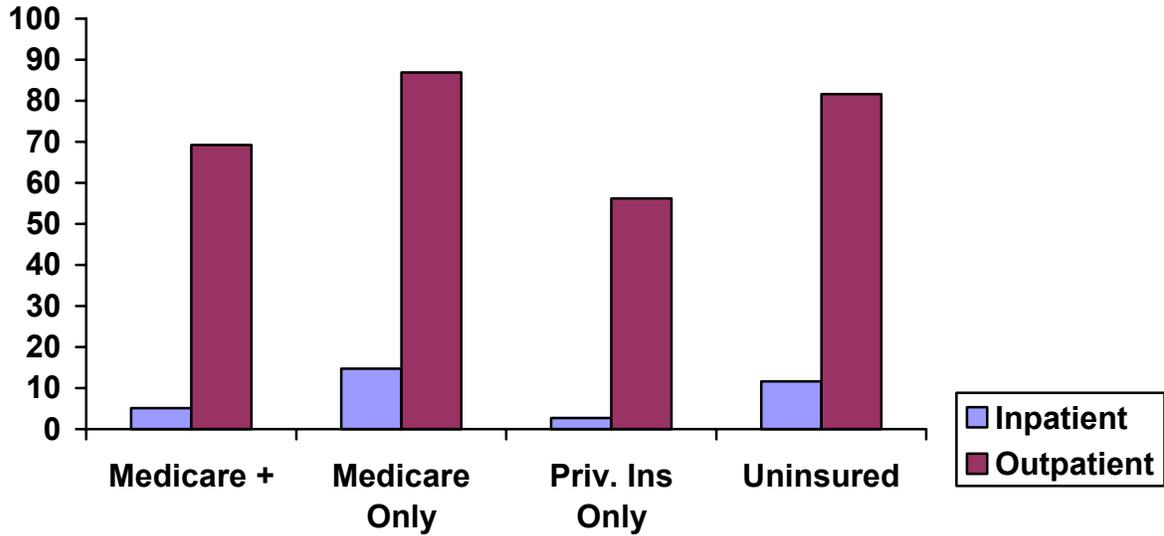


Figure 18: Average Number of Inpatient Stays/Outpatient Visits per Patient by Insurance Group, FY 1999

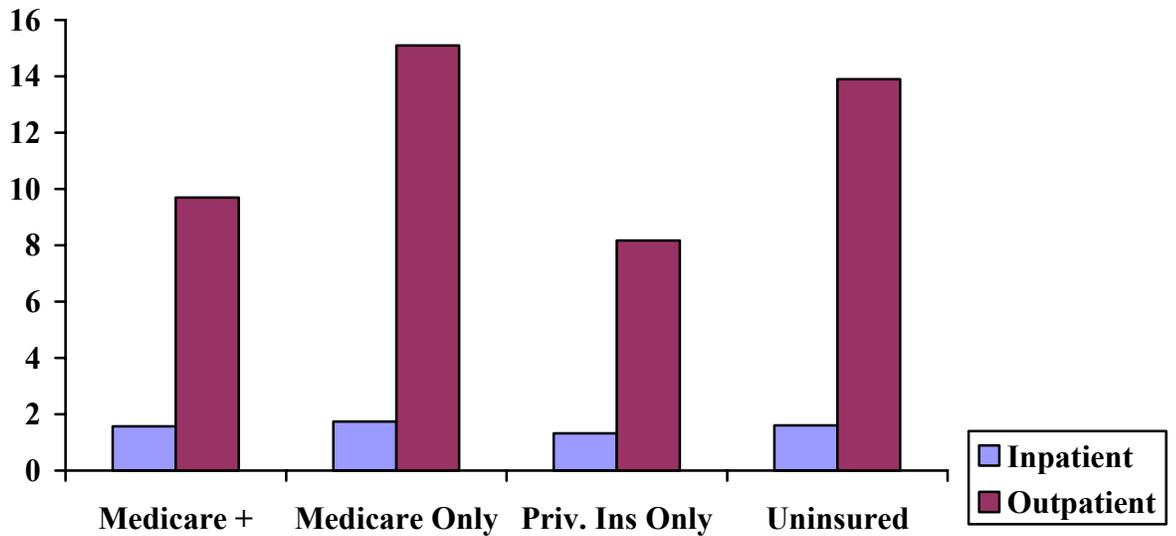
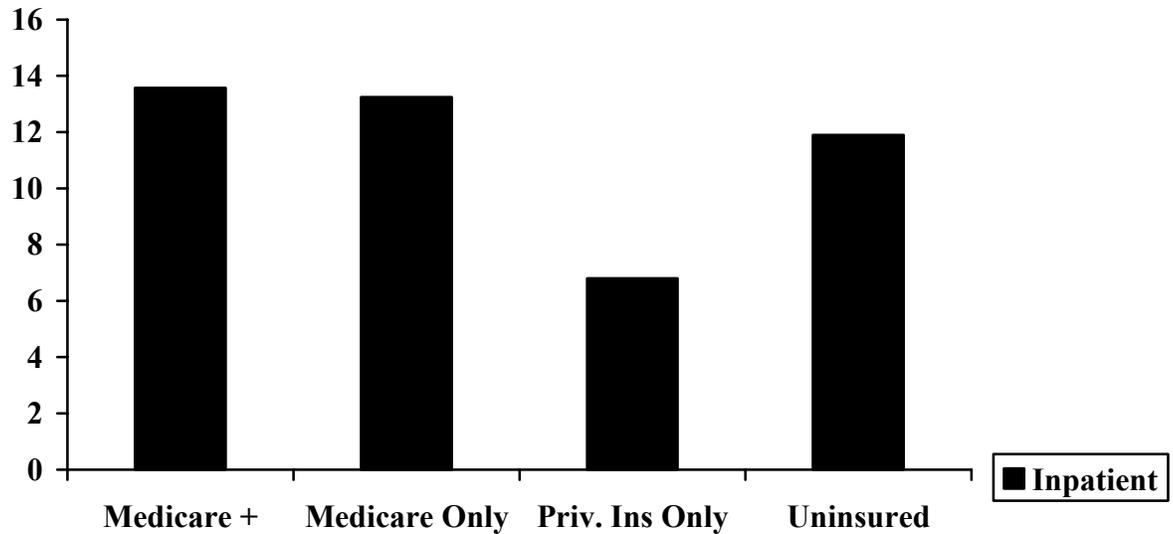


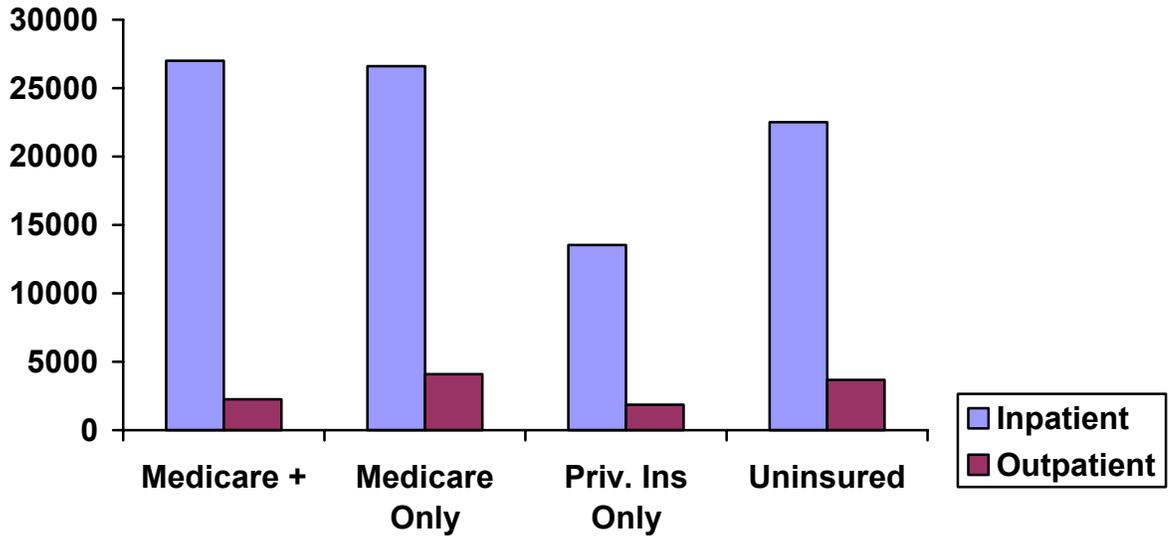
Figure 19: Average Number of Inpatient Days/Patient By Insurance Group, FY 1999



Patients with Medicare averaged more days in VA hospitals in FY 1999 than other patients. The number of days for those with and without supplemental Medigap insurance differed little: 13.6 versus 13.2 days, respectively. Patients without Medicare averaged 6.8 and 11.9 days (with and without private insurance) in VA hospitals (Figure 19 and Appendix Table 4).

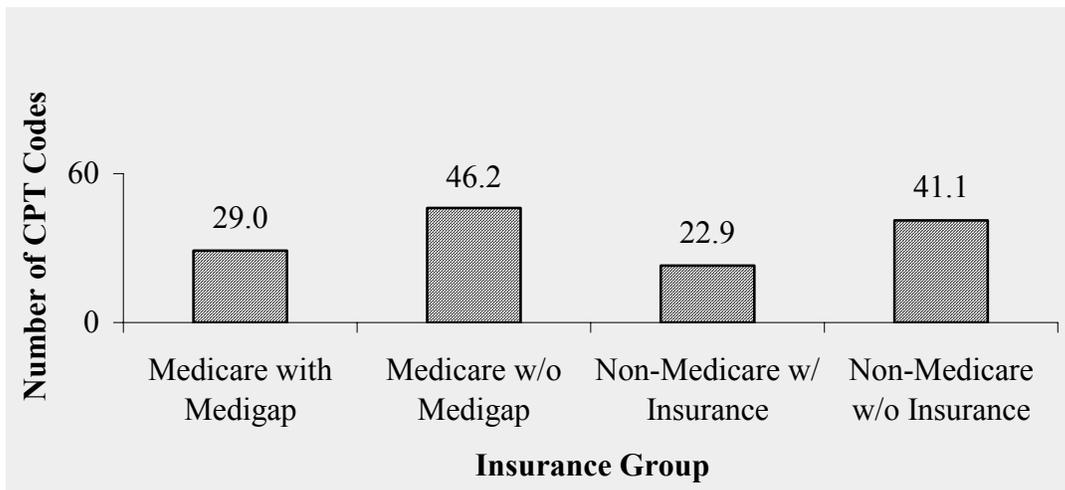
Fewer individuals with Medigap had inpatient care in VA and they went to VA hospitals less frequently than those without any private insurance, but they stayed longer per inpatient stay and each was more expensive compared to others. Figure 20 shows that for patients with care in FY 1999, the resources as measured by MCCF's reasonable charges were the same for Medicare-enrolled inpatients, but were almost twice as great for other types of care for non-insured patients compared to those with insurance.

Figure 20: Average Annual Reasonable Charges per Patient with Any Care, by Insurance Group, FY 1999



Patients with private insurance also had less intensive outpatient visits than those without private insurance. The average number of outpatient procedures as indicated by CPT codes for patients with Medigap is 29 compared with 22.9 for patients with other private insurance. Patients without any private insurance had more than 41 CPT codes on average (Figure 21). Patients with Medigap or

Figure 21: Average Number of CPT Codes per Patient by Insurance Group, FY 1999



other private insurance also had lower average outpatient cost based on billable CPT codes (Figure 20).

Specific Care

To examine types of VA care for patients with different insurance coverage, we identified 25 DRGs from inpatient care that had the largest numbers of inpatient days and top 25 CPT codes from outpatient care that were most costly. Figure 22 shows that these 25 DRGs account for 54.2% of total inpatient days. Inpatient care for patients who are not in Medicare but who have private insurance was more diversified than care sought by others: only 47.3% of all the inpatient days delivered to patients with private insurance but without Medicare were related to these 25 DRGs, compared to 57.3% for patients with Medicare + Medigap coverage. Overall, the reasonable charges related to the 25 CPT codes account for 37.3% of total CPT reasonable charges. Again, outpatient care for patients with private insurance but without Medicare was more diversified than outpatient care for patients in the other insurance groups. Of the total CPT charges for these patients, 31.8% were accounted for by these 25 CPT codes compared to about 40% of total CPT charges for patients without Medigap or other private insurance (Figure 23).

Figure 22: Percentage of Total Hospital Days in Top 25 DRGs

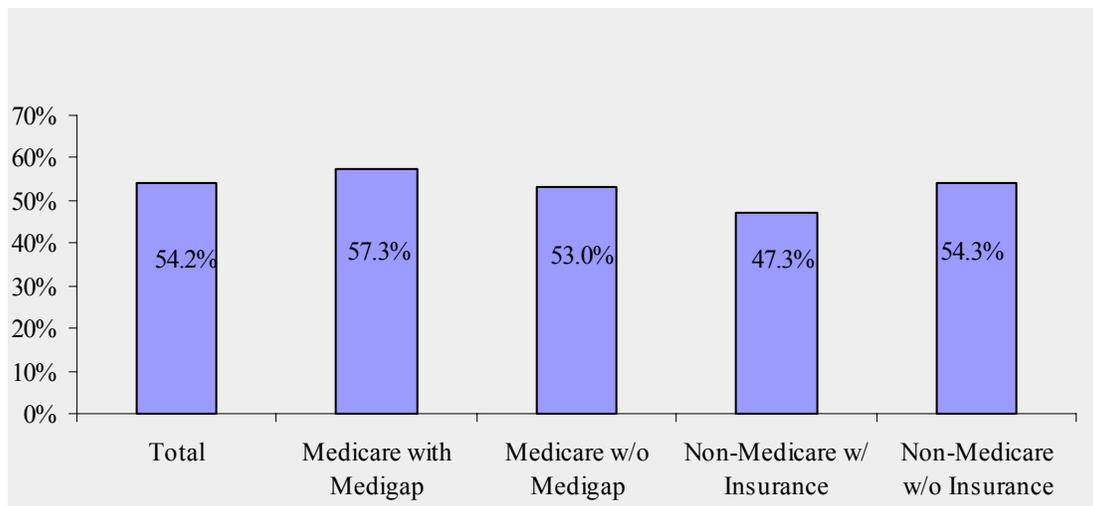
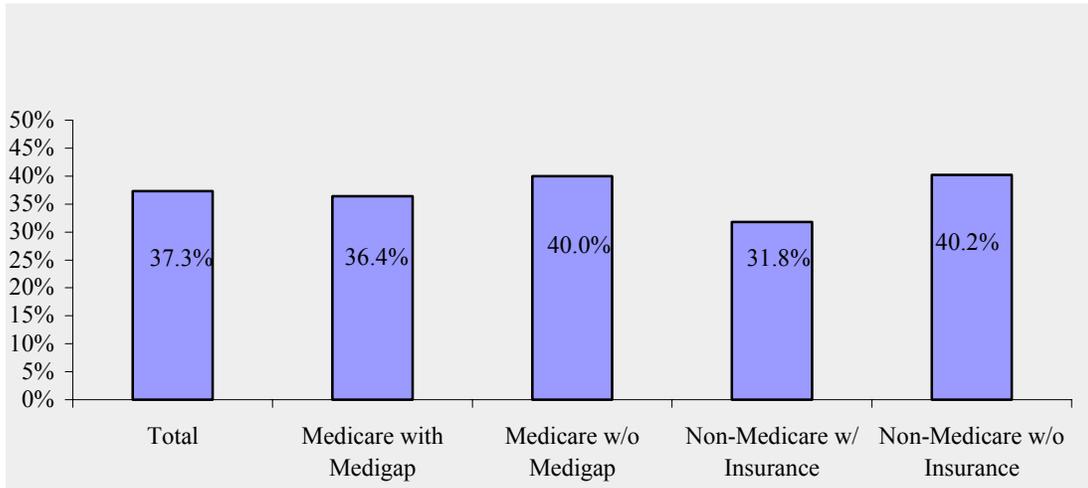


Figure 23: Percentage of Total CPT Reasonable Charges in Top 25 CPT codes



Tables 14-16 list the 25 DRGs and CPT codes by insurance groups.

TABLE 14: PATIENTS' INSURANCE STATUS FOR TOP 25 DRGs, WEIGHTED

Top 25 DRGs	Frequency	Medicare w/ Medigap %	Medicare w/o Medigap %	Non- Medicare w/ Insurance %	Non- Medicare w/o Insurance %
430PSYCHOSES	5,924	10.6	40.5	4.2	44.7
462REHABILITAT	1,670	22.1	45.3	3.1	29.5
427NEUROSES	1,804	10.6	28.4	10.6	50.5
88PULM OBSTRUCT	3,375	17.3	56.1	1.5	25.1
435A/DR DETOX	2,878	7.2	13.9	7.6	71.2
429ORGANIC MENT	605	20.7	57.1	0.4	21.8
127HEART FAILURE	2,880	19.5	58.3	1.4	20.8
12NERV DEGEN	689	38.4	35.3	0.6	25.7
89PNEUMONIA +	1,833	16.1	56.0	2.5	25.4
434A/DR DETOX-CC	1,552	9.8	29.0	2.9	58.4
132ATH-SCLERO +	2,805	13.7	50.5	1.7	34.1
14SPECIF C-VASC	1,282	19.0	49.9	0.3	30.8
426DEPRESSION	999	12.8	29.9	8.1	49.2
130PERIF VASC +	1,285	18.1	48.3	2.0	31.6
320KID. INFECT+	894	22.0	50.8	1.4	25.9
209JOINT MAJ SG	1,089	20.3	47.2	6.3	26.2
271SKIN ULCER	364	10.3	55.9	0.0	33.8
277CELLULITIS +	794	9.6	50.8	2.7	37.0
138CARD ARRHYM +	1,607	20.7	50.2	1.0	28.0
316RN FAIL ^DIAL	1,048	17.6	59.3	2.6	20.6
294DIABETES +	1,132	14.4	41.5	4.5	39.6
174GI HEMORRAG+	1,415	13.6	46.4	4.1	35.9
182ESO/GI/ETC +	1,250	16.2	48.3	2.1	33.4
124CIRC ^AMI +	1,093	14.7	50.7	1.8	32.9
131PERIF VASC -	1,020	16.8	43.7	5.2	34.3

TABLE 15: INSURANCE STATUS FOR INPATIENT DAYS IN TOP 25 DRGs, WEIGHTED

Top 25 DRGs	Total Days in each DRG	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
430PSYCHOSES	167,017	15.2	39.8	2.8	42.2
462REHABILITAT	73,196	23.9	42.6	2.7	30.8
427NEUROSES	45,736	10.6	23.9	9.6	55.9
88PULM OBSTRUCT	38,397	18.3	58.5	1.3	21.9
435A/DR DETOX	29,543	5.4	11.3	5.2	78.1
429ORGANIC MENT	29,393	18.0	61.4	0.3	20.3
127HEART FAILURE	26,832	23.1	55.6	1.1	20.2
12NERV DEGEN	25,602	72.3	19.5	0.0	8.2
89PNEUMONIA +	20,901	17.0	54.0	1.9	27.1
434A/DR DETOX-CC	19,253	8.6	42.9	2.3	46.2
132ATH-SCLERO +	16,197	15.3	50.0	1.5	33.2
14SPECIF C-VASC	16,081	13.3	55.2	1.2	30.3
426DEPRESSION	14,835	10.3	41.2	3.5	45.0
130PERIF VASC +	14,288	16.8	52.3	1.1	29.8
320KID. INFECT+	13,275	29.9	44.4	1.5	24.2
209JOINT MAJ SG	12,634	18.4	48.5	5.3	27.8
271SKIN ULCER	10,849	11.2	50.8	0.0	38.0
277CELLULITIS +	11,493	16.9	53.0	1.9	28.2
138CARD ARRHYM +	10,963	19.1	51.3	0.7	28.9
316RN FAIL ^DIAL	10,193	16.3	61.8	2.0	19.8
294DIABETES +	9,987	11.0	50.1	2.8	36.1
174GI HEMORRAG+	9,869	14.6	48.1	2.8	34.5
182ESO/GI/ETC +	9,445	15.5	49.1	1.0	34.4
124CIRC ^AMI +	9,343	15.8	51.8	1.2	31.2
131PERIF VASC -	8,906	31.7	37.9	3.5	26.8

TABLE 16: INSURANCE STATUS FOR TOTAL CHARGES IN TOP 25 CPTs , WEIGHTED

CPT Code	Description	Price (\$)	Total Cost	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
99213	Office/outpatient visit, est	65.9	61,278,702	22.1	37.1	8.8	32.0
99214	Office/outpatient visit, est	100.1	44,752,402	21.3	36.8	9.2	32.6
99215	Office/outpatient visit, est	157.6	36,144,946	17.7	37.4	8.5	36.5
99212	Office/outpatient visit, est	46.1	30,721,219	21.2	36.3	9.1	33.4
97545	Work hardening add on	207.6	22,958,777	7.6	27.9	6.3	58.2
45378	Diagnostic colonoscopy	3827.7	22,695,117	20.6	37.6	8.6	33.2
99283	Emergency dept visit	451.2	22,204,548	14.2	36.4	7.4	42.0
90862	Medication management	83.3	21,072,067	14.5	30.7	8.6	46.1
66984	Remove cataract/insert lens	6035.4	20,756,730	18.0	54.8	3.1	24.1
71020	Chest x-ray	153.0	19,430,873	19.8	38.0	8.3	34.0
78465	Heart image (3d), multiple	1566.5	15,912,220	18.6	41.4	7.3	32.6
90853	Group psychotherapy	53.7	14,673,933	12.1	31.9	8.4	47.7
99285	Emergency dept visit	1444.8	14,380,923	11.7	40.5	5.6	42.3
90806	Psytx, off, 45-50 min	143.3	13,782,480	12.1	29.2	14.0	44.7
99284	Emergency dept visit	786.8	12,797,908	15.5	36.4	5.8	42.4
90801	Psy dx interview	219.0	12,715,285	12.9	29.7	10.4	47.0
99211	Office/outpatient visit, est	22.8	11,789,398	21.2	35.6	8.5	34.7
36533	Insertion of access device	5792.6	11,385,910	17.0	37.2	3.7	42.0
99282	Emergency dept visit	248.4	10,975,618	13.7	33.1	8.6	44.6
99205	Office/outpatient visit, new	217.5	10,799,329	20.9	29.3	12.4	37.4
99456	Disability examination	499.8	10,770,003	19.4	17.6	25.2	37.9
99203	Office/outpatient visit, new	115.7	10,433,443	20.7	31.1	11.8	36.4
99204	Office/outpatient visit, new	172.6	10,265,823	22.2	29.7	11.7	36.4
52000	Cystoscopy	1360.4	10,150,608	21.8	45.9	4.6	27.7
93510	Left heart catheterization	4145.2	9,764,127	14.8	42.3	8.2	34.7

DIFFERENCES IN UTILIZATION BY VISN

Inpatient

Table 17 lists the percentage of total inpatient discharges by the insurance group of the respondents in each VISN. The percentages for the inpatient services is markedly lower than the patient-level data would lead one to estimate. Consequently, modeling insured inpatient care based on the proportion of patients with insurance will overstate the amount potentially covered by insurance by a large margin. The amount of overstatement depends on the value of the care for non-Medicare enrollees with insurance (Table 18) and on the number of discharges (and on the length of stay if it is over 90 days) for Medicare enrollees.

Inpatient resource use by patients in different insurance groups varies across VISNs. For example, patients with Medigap used 19.3% of total stays in VISN 13, but only 10.9% in VISN 21 and 16. Two factors may affect this difference: 1) VISN 13 has more patients with Medigap (Figure 13) or 2) patients with Medigap in VISN 13 used VA inpatient care more intensively. In order to compare the variation of VA care sought by patients with private insurance across VISNs, we calculated an index that relates numbers of patients with private insurance in each to resource use. This index is simply the ratio of the percentage of all inpatient resource (measured by discharges or total charges) used by patients with Medigap or other private insurance to the percentage of total patients in each VISN with Medigap or private insurance. For example, if 10% of the care is for the 20% of patients with Medigap coverage, the ratio would be 10/20 or 0.5. Table 19 presents the results.

TABLE 17: PERCENTAGE OF INPATIENT DISCHARGES IN VISN BY INSURANCE GROUP, WEIGHTED

VISN	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
1	18.2	44.6	5.3	31.9
2	17.8	44.7	4.7	32.8
3	17.4	44.4	2.4	35.9
4	21.3	38.0	4.5	36.3
5	18.0	39.0	5.0	38.0
6	13.6	48.3	3.8	34.3
7	13.1	46.3	4.9	35.7
8	15.7	43.1	7.2	34.1
9	13.6	46.8	5.0	34.6
10	18.0	41.6	4.5	35.8
11	17.2	40.1	3.6	39.1
12	16.1	43.3	2.5	38.1
13	19.3	47.8	5.0	27.9
14	17.3	47.5	4.4	30.8
15	16.6	44.7	3.6	35.1
16	10.9	45.8	3.4	39.9
17	11.1	42.8	5.7	40.3
18	17.5	39.4	5.4	37.7
19	17.7	43.3	6.5	32.6
20	16.3	41.6	4.7	37.4
21	10.9	41.6	4.2	43.3
22	11.8	34.4	4.4	49.3

TABLE 18: PERCENTAGE OF INPATIENT CHARGES IN VISN BY INSURANCE GROUP, WEIGHTED

VISN	Total Estimated Reasonable Charges \$	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
1	63,995,064	24.9	44.2	3.0	27.9
2	26,316,200	24.9	45.5	2.6	26.9
3	66,293,584	20.4	47.8	1.3	30.4
4	57,056,767	36.6	34.8	3.2	25.4
5	37,562,590	23.7	40.8	3.3	32.1
6	79,073,395	14.7	45.7	2.6	37.0
7	74,679,231	14.1	52.1	3.9	29.8
8	103,921,916	16.2	43.9	5.0	34.9
9	70,436,962	16.6	48.1	4.3	31.0
10	32,501,651	18.0	44.6	1.6	35.8
11	57,911,676	24.0	45.3	1.9	28.9
12	60,990,969	14.2	44.9	2.6	38.3
13	28,429,639	17.3	49.3	4.8	28.6
14	15,136,998	19.0	47.3	3.7	30.1
15	46,613,607	19.7	43.8	2.7	33.8
16	113,598,064	9.3	47.7	2.2	40.8
17	67,078,761	12.6	45.7	3.5	38.2
18	44,668,434	20.4	44.8	3.4	31.4
19	31,802,472	15.0	45.9	3.6	35.5
20	28,959,436	18.3	40.4	3.4	37.9
21	38,891,236	12.7	39.6	4.7	43.1
22	42,242,770	14.3	31.6	3.0	51.1

TABLE 19: RATIO OF INPATIENT RESOURCE USED BY PATIENTS WITH PRIVATE INSURANCE TO NUMBER OF PATIENTS WITH PRIVATE INSURANCE, VISN, WEIGHTED

VISN	Medicare w/ Medigap %		Non-Medicare w/ Insurance %	
	Discharges	Charges	Discharges	Charges
1	0.55	0.75	0.29	0.17
2	0.48	0.68	0.26	0.14
3	0.44	0.52	0.14	0.07
4	0.56	0.97	0.23	0.16
5	0.68	0.89	0.24	0.16
6	0.53	0.58	0.18	0.12
7	0.52	0.56	0.24	0.19
8	0.56	0.58	0.41	0.29
9	0.54	0.66	0.26	0.23
10	0.64	0.63	0.19	0.07
11	0.56	0.78	0.21	0.11
12	0.50	0.44	0.14	0.14
13	0.64	0.57	0.24	0.23
14	0.53	0.58	0.22	0.18
15	0.65	0.77	0.22	0.17
16	0.52	0.44	0.20	0.13
17	0.46	0.52	0.31	0.19
18	0.66	0.77	0.32	0.20
19	0.68	0.57	0.30	0.17
20	0.75	0.85	0.18	0.14
21	0.46	0.53	0.22	0.25
22	0.58	0.70	0.26	0.17
VA	0.55	0.63	0.24	0.17

The basic assumption for the current model of estimating VA's potential annual collections from third party payers for health care provided to veterans at VA medical center is that proportion of patients with third party health insurance is equal to the proportion of care delivered to patients with such insurance. This assumption implies that the ratios we generated should be 1, but Table 19 shows that all the indexes are less than 1, indicating that:

1. The current estimation model overestimates VA's potential annual collections
2. The degree of overestimation differs by VISNs
3. The degree of overestimation appears to be larger for non-Medicare enrollees with insurance.

Outpatient

The outpatient resources used by different insurance groups also vary by VISNs (Tables 20 and 21). After controlling for shares of private insurance in each VISN by creating ratios of outpatient care analogous to the inpatient ratios above, the variation still exists (Table 22). All the ratios in Table 22 are smaller than 1, which again implies that patients with private insurance had less VA outpatient use in all 22 VISNs and the potential annual collections from outpatient care are overestimated too.

SUMMARY

CHQOER's analyses of the 1999 Large Health Survey of VA Enrollees merged with FY 1999 VA utilization information has shown: 1) that almost half of all veterans who are VA patients have either private Medigap insurance or other private health care insurance coverage and 2) that the acute inpatient and outpatient utilization of veteran patients with private health insurance is markedly lower than the utilization of other VA patients who do not have such coverage. At least some of the lower utilization is probably due to the somewhat better circumstances of patients with private insurance as evidenced by their having, on average, better health status, more stable living arrangements, lower levels of service-connected disability, and higher incomes.

Insurance coverage and utilization differ markedly, both in the aggregate and across the 22 VISNs. This evidence confirms that the CHQOER/MCCF model of VA's potential collections from third party insurers has tended to overestimate potential billable amounts and that the extent of overstatement varies among the VISNs. The overstatement is considerable larger for non-Medicare enrollees with private health insurance than for Medicare enrollees with Medigap coverage.

There are several methods for estimating the impact of the new survey information on the CHQOER/MCCF model. CHQOER researchers are comparing several approaches and will submit a memo on estimate revisions under separate cover.

TABLE 20: PERCENTAGE OF OUTPATIENT VISITS IN VISN BY INSURANCE GROUP, WEIGHTED

VISN	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
1	23.8	37.5	9.4	29.3
2	26.4	37.0	9.1	27.5
3	23.6	37.5	7.0	31.9
4	28.2	29.9	11.5	30.4
5	17.6	29.8	11.1	41.6
6	20.0	36.0	10.6	33.4
7	19.8	33.6	11.8	34.7
8	21.6	35.8	9.9	32.7
9	20.0	38.8	9.9	31.4
10	21.4	30.5	9.4	38.6
11	22.7	35.3	8.3	33.8
12	19.4	32.5	7.6	40.5
13	24.7	37.3	9.1	28.9
14	25.6	35.7	9.8	28.8
15	21.4	36.4	7.8	34.5
16	15.3	36.9	8.9	38.9
17	16.8	34.5	9.9	38.8
18	21.2	35.8	9.6	33.3
19	19.5	35.8	10.3	34.4
20	16.2	31.3	12.5	40.0
21	15.8	35.9	8.4	39.8
22	13.2	34.5	6.9	45.4

TABLE 21: PERCENTAGE OF CPT CHARGES IN VISN BY INSURANCE GROUP, WEIGHTED

VISN	Total CPT cost \$	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
1	76,332,520	20.5	38.7	8.7	32.1
2	43,869,324	22.8	40.4	7.7	29.1
3	74,559,960	21.3	39.2	5.9	33.6
4	65,515,945	25.5	32.7	10.0	31.9
5	39,288,775	16.8	31.5	9.1	42.6
6	61,600,657	18.3	38.0	8.6	35.1
7	71,932,022	16.5	36.1	9.9	37.5
8	118,077,721	19.0	37.2	9.7	34.1
9	67,668,349	17.5	40.3	9.2	33.0
10	29,413,253	19.7	31.1	9.4	39.7
11	56,884,227	22.5	35.7	6.8	34.9
12	64,905,518	18.0	33.3	6.8	41.8
13	29,968,933	22.9	38.7	8.5	29.9
14	20,770,386	22.1	41.3	6.8	29.8
15	52,036,492	17.3	43.7	6.9	32.1
16	116,014,107	14.0	39.0	7.7	39.3
17	57,970,801	14.9	34.9	10.0	40.2
18	60,082,867	20.4	39.9	8.4	31.4
19	32,532,500	19.0	36.4	8.6	36.0
20	36,143,412	14.3	34.1	10.9	40.7
21	44,005,674	15.3	37.7	8.0	39.0
22	68,741,778	11.3	34.2	5.4	49.0

TABLE 22: RATIO OF OUTPATIENT RESOURCE USED BY PATIENTS WITH PRIVATE INSURANCE TO NUMBER OF PATIENTS WITH PRIVATE INSURANCE, VISN, WEIGHTED

VISN	Medicare w/ Medigap %		Non-Medicare w/ Insurance %	
	Visits	CPT Cost	Visits	CPT Cost
1	0.72	0.62	0.53	0.48
2	0.72	0.62	0.49	0.42
3	0.60	0.54	0.41	0.34
4	0.75	0.68	0.58	0.50
5	0.66	0.63	0.53	0.44
6	0.79	0.72	0.50	0.40
7	0.79	0.66	0.57	0.48
8	0.77	0.68	0.57	0.56
9	0.79	0.69	0.52	0.48
10	0.76	0.69	0.40	0.40
11	0.74	0.74	0.48	0.39
12	0.61	0.57	0.41	0.37
13	0.81	0.76	0.44	0.41
14	0.79	0.68	0.49	0.34
15	0.84	0.68	0.47	0.42
16	0.73	0.67	0.52	0.46
17	0.69	0.61	0.53	0.54
18	0.80	0.77	0.57	0.50
19	0.75	0.73	0.48	0.40
20	0.75	0.66	0.49	0.43
21	0.67	0.65	0.45	0.43
22	0.65	0.56	0.40	0.31
VA	0.73	0.65	0.50	0.44

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APPENDIX

Appendix Table 1: Patients' Characteristics by Insurance Group

	Medicare w/ Medigap %	Medicare w/o Medigap %	Non-Medicare w/ Insurance %	Non-Medicare w/o Insurance %
Age				
18-49	8.6	9.0	49.3	43.1
50-64	10.7	18.9	47.6	46.4
>=65	80.7	72.1	3.1	10.5
Gender				
Male	97.4	97.7	90.9	93.7
Female	2.6	2.3	9.1	6.3
Ethnicity				
White	82.5	72.8	71.8	63.1
Black	9.6	15.7	15.4	22.5
Hispanic	4.0	5.8	6.8	7.2
Other	3.9	5.8	6.0	7.2
Education				
<=12	58.5	69.6	32.8	50.7
>12	41.5	30.4	67.2	49.3
Marital status				
Married	73.6	54.4	70.1	38.7
Never married	4.5	8.4	9.7	18.9
Formerly married	21.9	37.2	20.2	42.4
Live alone				
Yes	17.8	29.1	15.4	29.8
No	82.2	70.9	84.6	70.2
Employment				
Employed	18.2	8.5	76.6	42.2
Retired	68.9	58.8	11.8	16.3
Unable to work	7.3	25.8	4.6	23.2
Other	5.5	6.9	7.1	18.3
Economic hardship				
Yes	7.5	16.3	11.1	26.2
No	92.5	83.7	88.9	73.8

Appendix Table 2: Total Workload in VA Inpatient Care by Insurance Group, Weighted

	All Persons %	Medicare w/ Medigap %	Medicare w/o Medigap %	Non- Medicare w/ Insurance %	Non- Medicare w/o Insurance %
Total	100	27.9	24.5	18.9	28.3
Have inpatient Care in VA					
Yes*	8.9	5.1	14.7	2.7	11.6
No*	91.2	94.9	85.3	97.3	88.4
Total # of discharges	100	15.4	43.4	4.6	36.6
Total # of days	100	17.5	43.7	3.1	35.6
Total cost (drg price x days)	100	17.8	44.7	3.2	34.3
Total cost (up to geom. Mean)	100	16.2	45.1	3.7	35.0

Appendix Table 3: Total Workload in VA Outpatient Care by Insurance Group, Weighted

	All Persons %	Medicare w/ Medigap %	Medicare w/o Medigap %	Non- Medicare w/ Insurance %	Non- Medicare w/o Insurance %
Total	100	27.9	24.5	18.9	28.3
Have Outpatient Care in VA					
Yes*	74.7	69.2	86.9	56.2	81.6
No*	25.3	30.8	13.1	43.8	18.4
Total # of visits	100	20.4	35.1	9.4	35.1
Total # of CPT codes	100	20.5	35.9	8.9	34.7
Total amount of CPT cost	100	18.3	37.1	8.3	36.2

Appendix Table 4: Average Workload in VA Inpatient Care by Insurance Group, Weighted

	All Persons	Medicare w/ Medigap	Medicare w/o Medigap	Non-Medicare w/ Insurance	Non-Medicare w/o Insurance
Avg. # of discharges per patient	1.64	1.57	1.74	1.32	1.61
Avg. # of days per patient	12.47	13.57	13.24	6.8	11.9
Avg. inpatient cost per patient (cost=DRG price*days)	24,458	26,999	26,604	13,541	22502

Appendix Table 5: Average Workload in VA Outpatient Care by Insurance Group, Weighted

	All Persons	Medicare w/ Medigap	Medicare w/o Medigap	Non-Medicare w/ Insurance	Non-Medicare w/o Insurance
Avg. # of visits per patient	12.34	9.69	15.1	8.17	13.92
Avg. # of CPT codes per patient	36.84	29	46.17	22.91	41.14
Avg. CPT cost per patient	3,169	2,248	4,083	1,868	3,672